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# Bids Are Submitted By Nearly 70 Firms

## This Compares With 47 Firms When Joint Congressional Printing Committee Previously Opened Bids For Paper For the Government Printing Office — Present Bids Are For Six Months Period.

WASHINGTON, D. C., May 25—The Joint Congressional Committee on Printing opened bids today for a six months' supply of paper amounting to more than 93,000,000 pounds, for the use of the Government Printing Office beginning July 1 next. Bids were received from nearly 70 bidders more than ever received by the Joint Committee aside from the old NRA days. Both the Joint Committee and the bidders were surprised at the number of bidders. At the last opening for a three months supply in March there were only 47 bidders.

The Joint Committee will meet on June 3 for the purpose of considering awards for the bids received today.

Bids received were as follows;

### Newsprint

No. 1—3,500,000 lbs., 24x36—64; rolls, 19, 24, 36 and 48 ins. wide (3-inch fiber cores, weight of cores and wrappers shall be included in net weight).

| | |
|---|---|
| Mudge Paper Co. (1,800,000 pounds only) | 2.60c |
| Carpenter Paper Co. | 2.525c |
| H. G. Craig & Co., Inc. (500,000 lbs. only) | 2.525c |
| Marquette Paper Co. | 2.50c |
| Paper Corp. of U. S. (Standard newsprint) | 2.50c<br>3.50c |

### Telephone Book News

No. 2—200,000 lbs., 24x36—45; rolls, 28 and 38 ins. wide (3-inch fiber cores). (Weight of cores and wrappers shall be included in the net weight).

| | |
|---|---|
| Minnesota Paper & Cordage Co. | 4.97c |
| Combined Lots Paper Co. | 5.316c |
| Bulkley Dunton & Co. | 5.25c |
| R. P. Andrews Paper Co. | 5.09c |
| Stanford Paper Co. | 5.09c |
| Lamy Paper Co. | 4.863c |
| Cauthorne Paper Co., Inc. (min. order 100,000 lbs.) | 5.15c |
| Bradner Smith & Co. | 4.85c |
| Carpenter Paper Co. | 5.72c |
| Barton, Duer & Koch Paper Co. | 5.09c |
| Graham Paper Co. | 4.84c |
| Paper Corp. of U. S. | 5.72c |
| Old Dominion Paper Co. | 5.084c |

### Machine-Finish Book

No. 3—700,000 lbs., 25x38—70; flat, cut 22½x31, and 31¼x45½ ins.

| | |
|---|---|
| Mudge Paper Co. | 6.31c |
| R. P. Andrews Paper Co. | 6.28c |
| Stanford Paper Co. | 6.37c |
| Butler Co. | 6.4321c |
| Frank Parsons Paper Co. | 6.383c |
| Barton, Duer & Koch Paper Co. | 6.52c |
| Graham Paper Co. | 6.51c |
| Marquette Paper Co. | 5.97c |
| Paper Corp. of U. S. | 6.82c |
| Whitaker Paper Co. | 6.23c |

No. 4—700,000 lbs., 25x38—70; flat, cut 24x38, and 38x48 ins.

| | |
|---|---|
| Mudge Paper Co. | 6.31c |
| R. P. Andrews Paper Co. | 6.19c |
| Stanford Paper Co. | 6.24c |
| Butler Co. | 6.4321c |
| Frank Parsons Paper Co. | 6.383c |
| Graham Paper Co. | 6.51c |
| Marquette Paper Corp. | 5.97c |
| Whitaker Paper Co. | 6.23c |

No. 5—700,000 lbs., 25x38—70; flat, cut 24x38, and 38x48 ins.

| | |
|---|---|
| Mudge Paper Co. | 6.31c |
| R. P. Andrews Paper Co. | 6.27c |
| Stanford Paper Co. | 6.42c |
| Butler Co. | 6.4321c |
| Graham Paper Co. | 6.51c |
| Marquette Paper Corp. | 6.383c |
| Perkins-Goodwin Co. | 5.97c |
| Whitaker Paper Co. | 6.23c |

No. 6—1,000,000 lbs., 25x38—70; rolls, 28½ ins. wide (3-inch fiber cores).

| | |
|---|---|
| Mudge Paper Co. | 5.39c |
| Bulkley Dunton & Co. | 5.93c |
| R. P. Andrews Paper Co. | 5.93c |
| Frank Parsons Paper Co. | 6.032c |
| Barton, Duer & Koch Paper Co. | 6.18c |
| Birmingham & Prosser Co. | 6.08c |
| Graham Paper Co. | 6.17c |
| Marquette Paper Corp. | 5.47c |
| Paper Corp. of U. S. | 6.32c |
| Whitaker Paper Co. | 5.73c |

No. 7—700,000 lbs., 25x38—70; rolls, 19 and 38 ins. wide (3-inch fiber cores).

| | |
|---|---|
| Central Ohio Paper Co. | 5.47c |
| Mudge Paper Co. | 5.47c |
| Bulkley Dunton & Co. | 5.93c |
| R. P. Andrews Paper Co. | 5.99c |
| Frank Parsons Paper Co. | 6.032c |
| Birmingham & Prosser Co. | 6.08c |
| Marquette Paper Co. | 6.21c |
| Paper Corp. of U. S. | 6.32c |
| Whitaker Paper Co. | 6.06c |

No. 8—700,000 lbs., 25x38—70; rolls 19 and 38 ins. wide (3-inch fiber cores).

| | |
|---|---|
| Central Ohio Paper Co. | 5.47c |
| Mudge Paper Co. | 5.47c |
| Bulkley Dunton & Co. | 5.93c |
| R. P. Andrews Paper Co. | 5.99c |
| Frank Parsons Paper Co. | 6.032c |
| Barton, Duer & Koch Paper Co. | 6.22c |
| Birmingham & Prosser Co. | 6.08c |
| Marquette Paper Corp. | 6.21c |
| Paper Corp. of U. S. | 6.32c |
| Whitaker Paper Co. | 6.06c |

No. 9—700,000 lbs., 25x38—70; rolls, 24, 36, and 48 ins. wide (3-inch fiber cores).

| | |
|---|---|
| Central Ohio Paper Co. | 5.47c |
| Mudge Paper Co. | 5.47c |
| Bulkley Dunton & Co. | 5.93c |
| R. P. Andrews Paper Co. | 5.99c |
| Frank Parsons Paper Co. | 6.032c |
| Birmingham & Prosser Co. | 6.08c |
| Marquette Paper Corp. | 6.21c |
| Paper Corp. of U. S. | 6.32c |
| Whitaker Paper Co. | 6.06c |

No. 10—1,000,000 lbs. 25x38—100; flat, cut 38x48 and 41x52 ins.

| | |
|---|---|
| McIntosh Paper Co. (200,000 lbs. only) | 6.19c |
| Mudge Paper Co. | 5.71c |
| Mead Sales Co., Inc. | 6.69c |
| R. P. Andrews Paper Co. | 5.65c |
| Stanford Paper Co. | 5.64c |
| Butler Co. ...(500,000 lbs. only) | 5.5432c |
| Frank Parsons Paper Co. | 5.736c |
| Barton, Duer & Koch Paper Co. (500,000 lbs. only) | 6.35c |
| Birmingham & Prosser Co. | 5.57c |
| Graham Paper Co. | 6.12c |
| Marquette Paper Co. | 5.61c |
| Perkins-Goodwin Co. | 5.74c |
| Paper Corp. of U. S. | 6.73c |
| Whitaker Paper Co. | 5.76c |

### Machine-Finish Book End Paper

No. 18—200,000 lbs., for waste leaves; flat, cut 25x38—160; the grain to run the 38-inch way.

| | |
|---|---|
| McIntosh Paper Co. (100,000 lbs. only) | 7.24c |
| Central Ohio Paper Co. | 6.74c |
| Mudge Paper Co. | 6.99c |
| Bulkley Dunton & Co. | 7.29c |

*(Continued on page 18)*

# Studies New Use for Waste Sulphite Liquor

## Institute of Paper Chemistry Is Investigating Possibilities of Using Effluent As A Binder In Blacktop Highway Construction— Appleton Chosen For 1943 Safety Meeting — Other Late News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 25, 1942—In the search for a remedy for stream pollution with waste sulphite liquor, the Institute of Paper Chemistry, Appleton, Wis., is investigating a new idea, that of using the effluent as a binder in blacktop highway construction. The Institute is directing research and experiments on behalf of the Sulphite Pulp Manufacturers' Committee on Waste Disposal to arrive at some process or other Wisconsin mills can use to comply with the demands of the Wisconsin State Board of Health to clean up the lakes and streams.

Tracking down the paving possibilities, Dr. Otto Kress, technical director of the Institute, and J. M. Holderby, coordinator for the committee, have been spending time at Madison, Wis. seeking cooperation of the state in practical tests. They conferred with Joseph Zapata, chemist for the Wisconsin Highway Commission, and L. F. Warrick, state sanitary engineer and secretary of the state committee on water pollution.

The project is still in its theoretical stage, but if found practical, will reduce the amount of asphalt required in blacktop road-building, and at the same time offer a feasible method of ending the present pollution.

### Appleton Awarded 1943 Safety Meeting

Appleton, Wis., has been awarded the 1943 meeting of the Fox River Valley and Lake Shore Safety Conference, which will be be held sometime in the spring. This decision was reached at the fifteenth annual conference at Manitowoc, Wis. Thursday, May 21. More than 1,000 safety executives, foremen and workers attended. Paper mills were liberally represented, especially in the group sessions for manufacturers and for converters.

### R. W. Lyons Made Woodlands Manager

Announcement has been made by Kimberly-Clark Corporation, Neenah, Wis., of the appointment of R. W. Lyons as general manager of woodlands for all of the company's timber operations in both the United States and Canada.

From May, 1936 to July, 1940, Mr. Lyons was located at Ironwood, Mich., where he was manager of the Bonifas Lumber Company of Michigan, the North Star Timber Company of Minnesota, and the Pulpwood Company of Wisconsin. Prior to that, he was manager of woodlands operations for the Spruce Falls Power and Paper Company, Ltd., of Kapuskasing, Ontario, since 1928. He has resided in Neenah since July, 1940.

Mr. Lyons was graduated from the forestry department of Toronto University in 1916, and has since been active in the field of forestry, having been associated with various prominent Canadian pulp and paper manufacturing institutions. He is a member of the Canadian Society of Forest Engineers, Quebec Society of Forestry, American Association of Forest Engineers, and the Lake States Regional committee of the American Pulpwood Association.

### Thilmany Workers Receive Awards

Thirty employees of the Thilmany Pulp and Paper Company, Kaukauna, Wis., were awarded Red Cross first aid certificates at a banquet at Hotel Kaukauna Saturday evening, May 16. Nineteen others received special advanced first aid pins for completion of the advanced first aid course.

K. J. Benson of the Employers Mutual Liability Insurance Company, was the principal speaker. The certificates were presented by A. R. Mill, local Red Cross representative, and the pins by L. C. Smith, personnel director of the company. Harold Newton was the instructor of both groups.

Eighty-eight former employees of the Thilmany company now serving in the armed forces of the United States have been presented with $50 war savings bonds, deposited in a local bank until their return. The company is also paying the equivalent of vacation pay to 28 of these men who would have been eligible if working, as of June 1, 1942.

### F. J. Sensenbrenner Honored

F. J. Sensenbrenner, chairman of the board of Kimberly-Clark Corporation, Neenah, Wis., has been named a member of the honorary advisory committee for the dedication of the new Technological Institute of Northwestern University, Evanston, Ill. The ceremonies are to take place June 15 and 16. This committee comprises 263 leading industrialists, educators, scientists and business men of the country.

Principal addresses will be delivered by Donald Nelson, head of the War Production Board; Charles F. Kettering, president of General Motors Research Corporation; Lieut. Gen. William Knudsen, member of the advisory War Production Board, and Jesse Jones, U. S. secretary of commerce.

### Shipman-Sensenbrenner Engagement

The engagement was announced last week of James J. Shipman and Miss Jane Sensenbrenner, both of Neenah, Wis. No date has been set for the wedding. Mr. Shipman is a son of Mr. and Mrs. George F. Shipman of Easton, Pa., is a graduate of the Massachusetts Institute of Technology, and is associated with Kimberly-Clark Corporation at Neenah. Miss Sensenbrenner is a daughter of Mr. and Mrs. J. Leslie Sensenbrenner of Neenah.

## Gets Minute Man Flag

BRISTOL, Pa.—The Paterson Parchment Paper Company, has received a Minute Man Flag from the U. S. Treasury for a 100 per cent enrollment of its 600 employes in the payroll deduction plan for the purchase of war savings bonds.

A certificate award will also be made by the Treasury. The employes of the plant on the West Coast also signed up for the plan. The entire enrollment was done in three weeks.

# Rising Costs Worry Newsprint Producers

## Declining Consumption and Increasing Expense Create Difficult Problem For Canadian Manufacturers—United Kingdom Demand For Wood Pulp Good — Hope OPA May Grant Higher Price.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 25, 1942—The matter of rising costs in the paper industry, particularly in the newsprint division, is causing concern. In spite of every effort at economising, the savings cannot compensate for the greater per ton cost resulting from declining consumption.

Chief among the rising cost items is the situation with respect to the primary material, wood. With the diversion of labor into war industries and enlistments into the army services it is becoming more and more difficult to recruit sufficient man power for woods operations. In spite of the freezing of wages and price ceilings, newsprint manufacturers find that wages have increased and camp supplies are higher in price. The situation has been materially helped by bringing all pulpwood contracts under jurisdiction of the timber controller, who has set price ceilings, but this action came after there had already been a considerable advance in wages over those prevailing a few years ago.

### Transportation and Other Costs Higher

Transportation charges have advanced on both the movement of raw materials and finished goods. Freight on pulp and paper moving into the United States went up recently on an average of 50 cents a ton. Shipping costs are very much higher on both inland, coastal and ocean freight. Some of the increase on overseas shipping costs was absorbed by the manufacturer, as the advance was too large for the buyer to absorb in its entirety. Repairs and maintenance at mills cost more now than before the beginning of the war and on many of the replacements coming from the United States special duties are necessary as well as the exchange discount. Wages and salaries at the mills and offices have had to be increased and the cost-of-living bonuses now have to be paid, as well as higher administration costs.

Since pulp and paper mills are designed to operate most efficiently when at full capacity or nearly so, the drop in volume and the prospects for further declines are naturally giving operators some worry. All other branches of the industry, except the newspaper division, are presently operating at or near capacity levels and have unit costs well under control.

### Demand for Wood Pulp Good

The decline in demand for the substitute products, that operated so favorably for the newsprint manufacturers last year, has turned their attention since the beginning of this year towards increasing their output of groundwood and sulphite pulps. The demand for these products is good, especially in the United Kingdom, and the newsprint industry is using a larger share of its pulp making equipment for making pulp for sale rather than for further conversion. This will help considerably in controlling costs, but there is still the matter of increased taxation. Newsprint has been classed by the Federal taxing authorities as a "depressed" industry, but very substantial income and "excess" profits taxes are collected from the industry, nevertheless, and in view of the heavier financial programme undertaken by the Dominion government, it would not be surprising to anyone if the new budget called for a revision upward of these taxes.

### Hope OPA May Grant Higher Price

All these arguments are advanced as reasons for the attempt to get an advance of $3 a ton on newsprint going to the United States. What the OPA will do about it finally is not yet known, but there are those in the industry here who feel that the above reasons are so legitimate that there is still hope that the OPA will allow the increase.

Last summer, when an advance in newsprint prices was first talked about, some were of the opinion that the advance was quite overdue as pulp producers had advanced their prices immediately after the outbreak of war. About the time that the newsprint manufacturers decided to ask for the increase to take effect April 1 of this year, the pulp makers also asked for another advance. This rise is also in abeyance. Other branches of the industry were more fortunate inasmuch as a larger share of their business is done in the local market and they have been able to adjust their prices as required up until the price ceilings were announced.

## OPA Rules on Exports

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 22, 1942—Exporters of standard newsprint paper may add certain actual freight charges incurred as the result of wartime conditions to maximum prices established by the Maximum Export Regulation on April 30, Price Administrator Leon Henderson announced today.

The ruling allows exporters of newsprint who are unable to ship from their usual ports to ship from more distant ports, such as New Orleans, without absorbing all the expense incident to the abnormal freight haul. This is achieved by allowing the exporters to include in their prices the differences in freight costs incurred by the shift.

Under this interpretation exporters are requested to elect in writing, subject to OPA approval, a normal port of export for their product. This normal port should be the one from which the bulk of their newsprint was exported before the war. On approval of OPA, they may, when exporting from some port other than this normal port, add to the normal port price the actual freight paid from mill to actual port of exit, after deducting the freight rate applicable to a shipment to the normal port of exit.

In case shipment actually has been made to the normal port, and shipping thereafter becomes unavailable there, the full freight cost necessary to put the shipment at the emergency port may be added as a shipping charge.

# Tentative Program for Annual Convention Of Superintendents Association

The twenty-third annual convention of the American Pulp and Paper Mill Superintendents Association will be held June 16, 17 and 18 at Grand Rapids, Mich. The headquarters of the convention will be at the Pantlind Hotel. The tentative program for the convention is as follows:—

**Monday—June 15**

1:00 P. M. Registration.

7:00 P. M. Affiliates' Dinner—Swiss Room, Hotel Pantlind.

**Tuesday—June 16**

9:30 A. M. Convention called to order—Ball Room, Hotel Pantlind, Oscar Stamets, President, presiding.
Invocation—Dr. E. A. Thompson, Pastor Park Congregational Church, Grand Rapids, Mich.
In Memoriam—Robert L. Eminger, National Secretary-Treasurer.
President's Message—Oscar Stamets.
Appointment of Committees.

10:30 A. M. General Conference—Ball Room, Hotel Pantlind.
Negotiations are underway for some outstanding speakers.

12:15 P. M. Men's Luncheon—Grill Room, Hotel Pantlind.
Toastmaster—To be announced.
Address of Welcome—Mayor George W. Welsh, Grand Rapids, Mich.
Response—Grover Keeth, First Vice President.

2:00 P. M. General Conference—Ball Room, Hotel Pantlind.
Open Forum—Maintenance and Conservation in Pulp and Paper Mills.
A Round-Table Discussion of experts representing suppliers and mill superintendents.
Maintenance of Paper Machines—Chairman, V. S. Denison, Beloit Iron Works, Beloit, Wis.
Maintenance of Converting Equipment—Chairman, Walter J. Goettsch, S. M. Langston Company, Camden, N. J.
Maintenance of Refining Equipment—Chairman, S. H. Jones, E. D. Jones & Sons Company, Pittsfield, Mass.
Maintenance of Pulping Equipment — Chairman, John H. Noble, Improved Paper Machinery Corporation, Nashua, N. H.
Maintenance of Power Plant Equipment—Chairman, W. W. Cronkhite, General Electric Company, Schenectady, New York.
Conservation of Chemicals—Chairman, Ralph W. Kumler, American Cyanamid and Chemical Company, New York, N. Y.
Conservation of Dyestuffs—Chairman, S. S. Harkavy, Geigy Company Inc., New York, N. Y.
Conservation of Inorganic Supplies—Chairman, Olin W. Callighan, Edgar Brothers, Company, Kalamazoo, Mich.
Maintenance of Pumps—Chairman, John H. Hall, Warren Steam Pump Company, Warren, Mass.
Maintenance of Paper Machine Clothing (Fourdrinier Wire Section)—Chairman, A. Fred Crossman, Lindsay Wire Weaving Company, Philadelphia, Pa., and Associate Chairman, Harry G. Specht, Eastwood-Nealley Corporation, Belleville, N. J.
Maintenance of Paper Machine Clothing (Drier Felt Section)—Chairman, B. L. Whittier, Mt. Vernon-Woodberry Mills, New York, N. Y.
Maintenance of Control Instruments—Chairman, Henry Ehrisman, Foxboro Company, Foxboro, Mass.
Discussion of Critical Materials—Chairman, R. T. Barnes, International Nickel Company, New York, N. Y.
Packing, Insulation and Roofing—Chairman, J. W. Hemphill, Johns-Manville, New York, N. Y.
Lubrication — Chairman, Thomas Dial, Socony Vacuum Oil Company, New York, N. Y.
COMMITTEE FROM THE SUPERINTENDENT'S ASSOCIATION.
General Chairman, Oscar Stamets, Riegel Paper Corporation, Milford, N. J.
Board Committee—Chairman, Ollie W. Messner, Robertson Paper Box Company, Montville, Conn.
Chemical Pulp Committee—Chairman, Stanford G. Blankinship, Port Royal Pulp Company, 230 Park Avenue, New York, N. Y.
Coated Papers Committee—Chairman, Loring W. McFail, Oxford Paper Company, Rumford, Maine.
Fine Paper Committee—Chairman, Dan J. Walsh, Parker-Young Co., Lincoln, N. H.
Finishing, Storing and Shipping—Chairman, Orville Ziegler, Riegel Paper Corporation, Milford, N. J.
Newsprint & Wrapping Committee—Chairman, T. E. Kloss, Maine Seaboard Paper Company, Bucksport, Maine.
Power and Plant Engineers Committee—Chairman, Grover Keeth, Marathon Paper Mills Co., Rothschild, Wis.
Tissue Committee—Chairman, R. F. Bennett, Ecusta Paper Corporation, Pisgah Forest, N. C.

6:00 P. M. Dinner—as you will.

7:30 P. M. Continuation of Open Forum if desired. Ball Room, Hotel Pantlind.

**Wednesday—June 17**

8:15 A. M. Men's Breakfast—Grill Room, Hotel Pantlind, S. G. Blankinship, Vice President, presiding.
Speaker—Roger Allen—Fifteen minutes of fun.

9:15 A. M. Group Meetings—Hotel Pantlind.
Lunch—as you will.
Golfers' luncheon may be obtained at Blythefield Country Club for those entering golf and shooting tournaments.

P. M. Sports.
Golf—Blythefield Country Club, Route U.S. 131.
Skeet and Trap Shooting—Creston Rod and Gun Club, Knapp Road.

7:45 P. M. Joint Dinner—Ball Room, Hotel Pantlind.
Toastmaster—T. E. Lagerstrom, International Nickel Company, New York, N. Y.
Presentation of Sports Prizes.

Entertainment.
Dancing—Ball Room, Hotel Pantlind.
Music by De Forest Poole and his orchestra.

**Thursday—June 18**

8:15 A. M. Men's Breakfast—Grill Room, Hotel Pantlind, Raymond L. Barton, Vice President, presiding.
Speaker—Roger Allen—Fifteen minutes of fun.
9:15 A. M. Group Meetings—Hotel Pantlind.
Lunch—as you will.
2:15 P. M. Business Meeting for Association Members, Swiss Room, Hotel Pantlind, Oscar Stamets, President, presiding.
Report of Committees.
Election of Officers.
Resolutions.
7:30 P. M. Joint Banquet (semi-formal)—Ball Room, Hotel Pantlind.
Toastmaster—To be named.
Speaker—John L. Riegel, President Riegel Paper Corporation, Milford, N. J.
Presentation of Past President's Jewel.
Presentation of L. D. Post Trophy.
Dancing.—Ball Room, Hotel Pantlind.
Music by De Forest Poole and his orchestra.

## GROUP MEETINGS

**Wednesday—June 17**

9:15 A. M. BOARD.
Chairman—Ollie W. Messner, Robertson Paper Box Company, Montville, Conn.
1. Paper on wire life and maintenance of same for plain and suction extractor rolls—accompanied by slides showing type of wire mesh. By representative of Downingtown Mfg. Co., Dowingtown, Pa.
Round-table discussion on Maintenance and Conservation.
9:15 A. M. FINE PAPERS.
Chairman—Dan J. Walsh, Parker-Young Company, Lincoln, N. H.
Five ten-minute papers.
9:15 A. M. NEWSPRINT AND WRAPPING.
Chairman—T. E. Kloss, Maine Seaboard Paper Company, Bucksport, Maine.
Round-table discussion on Mantenance and Conservation; also processing problems.
9:15 A. M. TISSUE.
Chairman—R. F. Bennett, Ecusta Paper Corporation, Pisgah Forest, N. C.
Round-table discussion on Maintenance and Conservation; also processing problems.

**Thursday—June 18**

9:15 A. M. CHEMICAL PULP.
Chairman—Stanford G. Blankinship, Port Royal Pulp Company, New York, N. Y.
Two papers to be announced.
Round-table discussion.
9:15 A. M. COATED PAPERS.
Chairman—Loring W. McFail, Oxford Paper Company, Rumford, Me.
Round-table discussion on Maintenance and Conservation.
9:15 A. M. FINISHING, STORING AND SHIPPING.
Chairman—Orville Ziegler, Riegel Paper Corporation, Milford, N. J.
"Paper Mill Skids" and "Car Loading of Paper Mill Skids," by George W. Craigie, Field Secretary, Superintendents Association.
Round-table discussion.
9:15 A. M. PLANT AND POWER ENGINEERS.
Chairman—Grover Keeth, Marathon Paper Mills Company, Rothschild, Wis.
Paper by George Urban, Power Assistant, Marathon Paper Mills Company, Rothschild, Wis., on his accomplishments in the boiler room.
Round-table discussion on maintenance.

## LADIES PROGRAM

**Tuesday—June 16**

12:15 P. M. Lunch—as you will.
Sightseeing and shopping.
Dinner—as you will.
Evening Theatre Party—choice of two theatres.

**Wednesday—June 17**

1:00 P. M. Luncheon at Herpolsheimer's Tea Room, Herpolsheimer's Dept. Store, Grand Rapids, Mich.
Style Show—Herpolsheimer's.
2:30 P. M. Bridge Tournament—Herpolsheimer's.
7:45 P. M. Joint Dinner—Ball Room, Hotel Pantlind.
Dancing.

**Thursday—June 18**

10:30 A. M. Taxis to Grand Rapids' Furniture Museum.
Lunch at Women's City Club.
Talk on Interior Decorating—Women's City Club.
7:30 P. M. Joint Banquet (semi-formal)—Ball Room, Hotel Pantlind.
Dancing.

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## Transportation Charges on Pulp

WASHINGTON, D. C., May 13, 1942—Delivered prices for the various grades of imported wood pulp which purchasers in the United States may pay may not exceed the maximum delivered prices at the consumer's mill as established by Maximum Price Regulation No. 114 (Wood pulp), Price Administrator Leon Henderson stated today.

The regulation, which became effective April 20, established a single-pricing system and maximum prices for the various grades of domestic and foreign wood pulp. The order, however, also provides for freight allowances for producers of domestic wood pulp based on the geographic location of the producing mill.

Since no freight allowances were established for foreign producing areas, the maximum prices for foreign wood pulp must be those specifically established as the delivered prices at the consumer's mill by the regulation in Section 1347.232 (a) (1) or (2), regardless of the amount of freight involved.

Prices of foreign wood pulp sold from a dock or warehouse in the United States to consumers in this country are established by Section 1347.232 (a) (4), but this provision does not apply to woodpulp of foreign origin shipped and sold to a consumer in this country from any point in a foreign country.

Any consumer prepared to show that because of the transportation charges involved he cannot purchase wood pulp produced in a foreign area at the ceiling prices established by the regulation, may file a petition with OPA for exception from the maximum prices fixed by the order.

# Government Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 27, 1942—The Government Printing Office has received the following bids for 37,125 pounds of 35 x 45 white 25% rag bond paper: Stanford Paper Company, 12.6 cents; Mudge Paper Company, 13.2 cents; Whitaker Paper Company, 13.89 and 12.89 cents; Walker Goulard Plehn Company, 12.91 cents; Virginia Paper Company, 12.6 cents; R. P. Andrews Paper Company, 12.6 cents; Wilcox-Walter Furlong Paper Company, 12.9 cents; Coy Hunt & Company, 13.6 cents; Bermingham & Prosser Company, 12.47 cents; Old Dominion Paper Company, 12.574 cents; Bradner Smith & Company, 12.6 cents; Garrett-Buchanan Company, 14 cents; Collins Manufacturing Company, 13.49 cents; and Aetna Paper Company, 13.43 cents.

For 492,800 pounds of 42 x 58 poster paper: Bradner Smith & Company, 7.4 cents; D. L. Ward Company, 7.12 cents; R. P. Andrews Paper Company, 6.98 and 7.35 cents; Mudge Paper Company, 6.52 cents; Paper Corp. of U. S., 6.65 cents; Marquette Paper Company, 6.6 cents; Stanford Paper Company, 6.58 cents; Coy, Hunt & Co., 7.13 cents; Wilcox, Walter Furlong Paper Company, 7.8 cents (100,000 pounds only); Garrett-Buchanan Company, 7.8 cents (200,000 pounds only); Central Ohio Paper Company, 6.38 cents; Walker Goulard Plehn Company, 6.49 cents; Bermingham & Prosser Company, 6.48 cents.

For 14,000 pounds of 22½ x 28½, 50% rag, yellow index: Walker Goulard Plehn Company, 16.06 cents; Mudge Paper Company, 15.62 cents; Bermingham & Prosser Company, 15.87 cents (all or none); Coy Hunt & Co., 15.45 cents; Paper Corp. of U. S., 16.5 cents; Old Dominion Paper Company, 16.384 cents; R. P. Andrews Paper Company, 15.87 cents; Whitaker Paper Company, 16.16 cents; Garrett-Buchanan Company, 16.9 cents; Collins Manufacturing Company, 15.49 cents (all or none); Central Ohio Paper Company, 17.25 cents; Bradner Smith & Company, 16.4 cents; Wilcox Walter Furlong Paper Company, 16.25 cents (all or none); Bulkley Dunton & Company, 16.25 cents (all or none); Graham Paper Company, 15.87 cents (all or none); and Stanford Paper Company, 16.198 cents.

For 29,800 pounds of 32½ x 42, 50% rag, yellow index paper: Walker Goulard Plehn Company, 16.06 cents; Mudge Paper Company, 15.62 cents; Bermingham & Prosser Company, 15.87 cents (all or none); Coy, Hunt & Company, 15.45 cents; Paper Corp. of U. S., 16.65 cents; Old Dominion Paper Company, 16.384 cents; R. P. Andrews Paper Company, 15.87 cents; Whitaker Paper Company, 16.16 cents; Garrett-Buchanan Company, 16.9 cents; Collins Manufacturing Company, 15.49 cents (all or none); Central Ohio Paper Company, 17.25 cents; Bradner Smith & Company, 16.4 cents; Wilcox Walter Furlong Paper Company, 16.25 cents (all or none); Bulkley Dunton & Co., 16.25 cents (all or none); Graham Paper Company, 15.87 cents (all or none); Stanford Paper Company, 16.198 cents.

For 1,000,000 pounds of 22½ x 28½ U. S. postal card bristol board: Whitaker Paper Company, 6.2 cents; R. P. Andrews Paper Company, 6.17 cents (500,000 pounds only); and Bermingham & Prosser Company, 6.15 cents.

Mudge Paper Company has been awarded the contract for furnishing the Government Printing Office with 190,646 pounds of 35½ x 55 jute tag board at 10.75 cents. Other paper awards announced recently include the following:

Marquette Paper Company will furnish 9,600 pounds of 100% rag, 38 x 48 cream white antique book paper at 18 cents and Bulkley Dunton Company will furnish 59,406 pounds 34 x 44 white offset book paper at 6.6 cents.

R. P. Andrews Paper Company will furnish 17,280 pounds of 38 x 48 offset book paper at 9.65 cents and the same firm will also furnish 500,000 pounds of 22½ x 28½ cream bristol board at 6.49 cents. Whitaker Paper Company will furnish 600,000 pounds of 22½ x 28½ cream bristol board at 6.45 cents, and Marquette Paper Company will furnish 400,000 pounds of 35 x 45 white M.F. book paper at 7.46 cents. The same firm will also furnish 600,000 pounds of 35 x 45 white supercalendered book paper at 6.74 cents.

Stanford Paper Company will furnish 25,575 sheets of 22⅛ x 34½ white cloth lined paper at $109.20 per M sheets and Mudge Paper Company will furnish 25,575 sheets of same at $109.20 per M sheets. Barton, Duer & Koch Paper Company will furnish 25,575 sheets of same at $109.20 per M sheets and Whitaker Paper Company will furnish same at the same price.

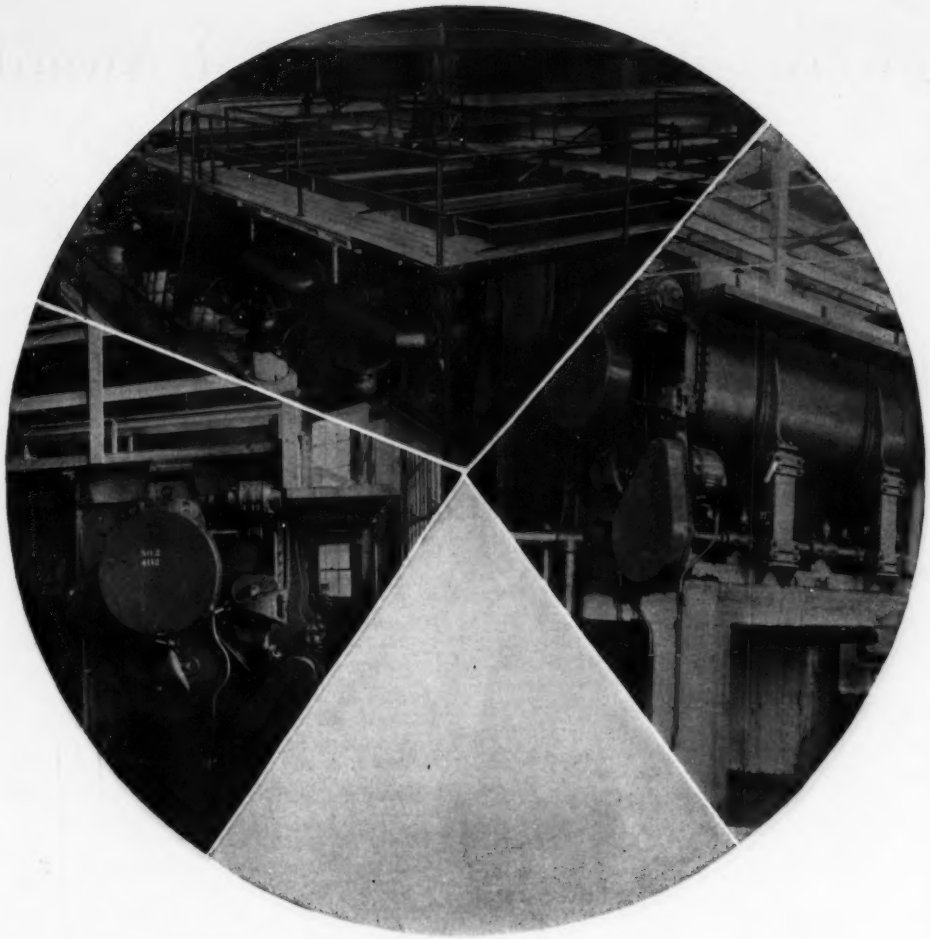
R. P. Andrews Paper Company will furnish 490,350 pounds of 33 x 60 cream card bristol board at 6.74 cents and Marquette Paper Company will furnish 81,091 pounds of 36 x 56 white special M.F. book paper at 7.46 cents. Mudge Paper Company will furnish 12,000 pounds of 22½ x 28½ jute tag board at 12.36 cents. Marquette Paper Company will furnish 741,350 pounds of 35 x 45 white special M.F. offset book paper at 7.46 cents and Bermingham & Prosser Company will furnish 37,125 pounds of 25% rag, 35 x 45 white bond paper at 12.47 cents. Barton, Duer & Koch Paper Company will furnish 632,690 pounds of 33 x 60½ cream bristol post card board at 6.98 cents.

## Court Approves Abitibi Appeal

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 25. 1942—A bond of the United States Fidelity and Guarantee Company in the sum of $4,000 was approved by the court of appeal at Osgoode Hall here this week as security for costs of an appeal to the privy council against an order by Mr. Justice W. E. Middleton made December, 1941, ordering a sale of the assets and undertakings of the Abitibi Power and Paper Company.

Thus another legal step has been consummated in the long-drawn battle for control of the great Abitibi corporation. In about four more months Mr. G. T. Clarkson, will have been receiver and manager for Abitibi for a decade and perhaps by that time the privy council will have made its decision and the fate of the company will be known. The ten-year period has been marked by long-drawn-out fights to carry out a re-organization that would be acceptable to bondholders and stockholders alike.



# MORE THAN *Three Quarters* OF ALL THE PAPER MADE IN NORTH AMERICA PASSES THROUGH

# BIRD SCREENS

**The universal standard for the production of clean, well formed paper at high speeds.**

## BIRD MACHINE COMPANY
SOUTH WALPOLE · MASSACHUSETTS

# Mill Executives Meet at Paper Institute

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 18, 1942—Approximately 100 attended the annual executives' conference of member mills of the Institute of Paper Chemistry here Thursday and Friday of last week, to review the year's accomplishments and learn new findings in research and experiment.

Activities opened with registration Thursday morning, followed by a tour of the laboratories and the manufacturing departments with their miniature machinery. Institute students served as guides, and explained their projects to the visitors. A luncheon followed at North Shore Golf Club at which D. C. Everest, president of the Marathon Paper Mills Company, Rothschild, Wis., and vice-president of the Institute board of trustees presided. Westbrook Steele, executive director of the Institute was the speaker, reviewing the strides made during the last year, and some of the accomplishments of the research staff.

Golf occupied the remaining time Thursday afternoon, and the annual conference banquet was held in the evening at North Shore clubhouse. Ernst Mahler, executive vice-president of Kimberly-Clark Corporation, Neenah, Wis., and president of the Institute board, was the toastmaster. The speaker was F. L. Schuster, vice-president of the Lehman Corporation, New York City. His subject was "The National Economy." He explained the effects of the war effort on industry, and related some of the trends of which the manufacturers should take note.

Sessions Friday morning and afternoon were devoted to thesis discussions by students who are working for their doctor's degrees. Another luncheon was held for the visitors at noon at the North Shore clubhouse.

Among the executives registered were the following:

Julius A. Fincken, A. P. W. Paper Company, Albany, N. Y.; C. S. Boyd, Appleton Coated Paper Company, Appleton, Wis.; J. N. Bergstrom, Bergstrom Paper Company, Neenah, Wis.; R. A. Campbell, Blandin Paper Company, Grand Rapids, Mich.; H. P. Carruth, Brown Company, Berlin, N. H.; Harold Murdock, Champion Paper and Fibre Company, Canton, N. C.; H. T. Randall, Champion Paper and Fibre Company, Hamilton, O.; G. D. Muggleton and J. F. King, Combined Locks Paper Company, Combined Locks, Wis.; Stanton W. Mead and Walter L. Mead, Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis.; Kenneth Huse and Milton Fillius, Eastman Kodak Company, Rochester, N. Y.; R. F. Bellack and W. M. Roberts, Fox River Paper Corporation, Appleton, Wis.; Roland Richardson and Colin Gardner III, Gardner-Richardson Company, Middletown, O.; A. C. Gilbert, George Gilbert, Arthur Haslow and T. Richard Probst, Gilbert Paper Company, Menasha, Wis.; K. A. Taylor, International Paper Company, Glenn Falls, N. Y.

Ernst Mahler, C. H. Sage, S. F. Shattuck, C. G. Parker, Fred S. Seaborne, William Kellett, F. E. Sensenbrenner, C. A. Fourness H. R. Rothchild, R. Lotz, H. G. Boon, W. M. Wright, A. R. Ellis, J. H. Kimberly and A. D. Harvey, Kimberly-Clark Corporation, Neenah, Wis.; Leo E. Croy, Marathon Paper Mills Company, Menasha, Wis.; Sydney Ferguson, Mean Corporation, N. Y.; J. O. Mason and R. H. Savage, Mean Corporation, Chillicothe, O.; Norman E. Stone, Mosinee, Wis.; Kimberly Stuart and Leo Schubart, Neenah Paper Company, Neenah, Wis.

Charles H. Reese and J. E. Alexander, Nekoosa-Edwards Paper Company, Port Edwards, Wis.; R. H. Purdy, Northern Paper Mills, Green Bay, Wis.; C. I. McNair, and Stuart B. Copeland, Northwest Paper Company, Cloquet, Minn.; P. Koenig, P. H. Glatfelter Company; C. E. Carpenteer and R. W. K. Ulm, Ohio Boxboard Company, Rittman, O.; F. W. Brainer, Scott Paper Company, Chester, Penna.; Hugh Strange, John Strange Paper Company, Menasha, Wis.; L. H. Levandoski, John Gilbert Paper Company, Menasha, Wis.; C. R. Seaborne, E. H. Jennings, D. McCorsin, Thilmany Plup and Paper Company, Kaukauna, Wis.; B. Bugge, Tomahawk Kraft Paper Company, Tomahawk, Wis.

Representing the West Virginia Pulp and Paper Company were: T. H. Stirling, and F. A. Coe, Mechanicsville, N. Y.; H. D. Stroup, Williamsburg, Pa.; P. B. Lacy and R. A. Hooks, Covington, Va.; L. W. Strattner, New York City; E. S. Hooker, Tyrone, Pa.; F. G. Rawling, Luke, Md., and T. A. Cook, Charleston, N. C.

Other executives attending were: William Geiger, Weyerhaeuser Timber Company, Pulp division, Chicago, Ill.; J. H. Miller and A. L. Moss, Whiting-Plover Paper Company, Stevens Point, Wis.; Charles A. Gordon, Oxford Paper Company, 230 Park Avenue, New York, New York; R. M. Sensenbrenner, George A. Whiting Paper Company, Menasha, Wis.; W. H. Kenety, Fitchburg Paper Company, Fitchburg, Mass.; E. W. Tinker, American Paper and Pulp Association, New York, New York; L. H. Reed, Marinette Paper Company, Marinette, Wis.; R. S. Powell, First National Bank, Appleton, Wis.; Sam Pickard, National Manufacturers Bank, Neenah, Wis.; Theodore Friedlander, Phoenix Hosiery Company, Milwaukee; Rex Reeder, Marine National Bank, Milwaukee; Henry Madsen, Appleton Machine Company, W. E. Buchanan, Appleton Wire Works; Allan Thuerer, Appleton Woolen Mills, Appleton, Wis.

George Banta, George Banta Publishing Company, Menasha, Wis.; W. K. Gerbrick, Central Paper Company, Menasha, Wis.; Donald Turner, Donald Shepard and Mowry Smith, Menasha Woodenware Company, Menasha, Wis.; Ray Peterson, Valley Iron Works, Appleton; Benjamin Poss, Milwaukee; H. L. Davis, Appleton Post-Crescent; Marshall Hulbert and Carl J. Waterman, Lawrence Conservatory of Music; George Baldwin, Baldwin Plywood and Veneer Company, Gillett, Wis.; Lincoln Thiesmeyer, Institute of Gas Technology, Chicago, Ill.; Ward Delaney, Ward Delaney and Company, Shreveport, La.; D. C. Everest, Marathon Paper Mills Company, Rothschild, Wis.; C. M. Green, Mosinee Paper Mills Company, Mosinee, Wis.; D. K. Brown, Neenah Paper Company, Neenah, Wis.; Folke Becker, Rhinelander Paper Company, Rhinelander, Wis.; and John L. Riegel, Riegel Paper Corporation, New York.

*Announcing*

# AN EXCELLENT NEW SOURCE

*for*

# ASPHALT-LAMINATED PAPER AND BOARD

**SLIT TO SIZE**
**IN ROLLS UP TO 84 INCHES WIDE**

Production from one of the most modern asphalt-laminating plants in the country is now available. We are particularly interested in orders carrying priority ratings of A-10 or better.

This plant, installed during the last six months, is equipped with the finest up-to-date laminating and slitting equipment. Note particularly that material is available up to 84 inches wide.

30/30/30 waterproof kraft is being regularly produced, and we are also fully familiar with Government specifications on other types of laminated kraft and chipboard. We solicit your inquiries on these, as well as on special sheets.

CLOPAY
CORPORATION
CINCINNATI, OHIO
WRITE OR WIRE

# BIDS ARE SUBMITTED BY NEARLY 70 FIRMS

*(Continued from page 9)*

R. P. Andrews Paper Co..... 6.61c
Stanford Paper Co..... 6.93c
Butler Co. ..... 7.92c
Chatfield & Woods Co..... 8.00c
Willcox, Walter, Furlong Co..... 7.00c
Graham Paper Co..... 7.95c
Marquette Paper Corp..... 7.00c
Paper Corp. of U. S..... 6.87c
Whitaker Paper Co..... 6.31c

### Offset Book

No. 19—2,000,000 lbs., 25x38—80; flat, cut 38x48 ins.

Central Ohio Paper Co..... 7.02c
Mudge Paper Co. ..... 7.19c
R. P. Andrews Paper Co.....
(1,000,000 lbs. only) 6.66c
Butler Co....(1,000,000 lbs. only) 7.01c
Frank Parsons Paper Co..... 7.004c
Bradner Smith & Co.....
(400,000 lbs. only) 7.55c
Birmingham & Prosser Co.....
(1,000,000 lbs. only) 7.01c
Marquette Paper Corp..... 6.72c
Swigart Paper Co.....
(400,000 lbs. only) 7.63c
Paper Corp. of U. S..... 7.36c
Whitaker Paper Co..... 6.69c
D. L. Ward & Co.....
(1,000,000 lbs. only) 7.29c

No. 20—800,000 lbs., 25x38—90; flat, cut 34x44 ins.

Dill & Collins, Inc..... 8.40c
Central Ohio Paper Co..... 6.98c
Mudge Paper Co..... 6.74c
R. P. Andrews Paper Co..... 6.46c
Frank Parsons Paper Co..... 6.663c
Cauthorne Paper Co. Inc..... 8.02c
Birmingham & Prosser Co..... 7.05c
Graham Paper Co.....
(200,000 lbs. only) 7.70c
Marquette Paper Corp..... 6.57c
Walker Goulard Plehn Inc..... 7.01c
Paper Corp. of U. S..... 7.36c
Whitaker Paper Co..... 6.61c
D. L. Ward Co.(800,000 lbs. only) 6.99c
Aetna Paper Co..... 6.88c

No. 21—1,500,000 lbs., 25x38—100 and 120; flat, cut 38x48 ins., grain as ordered.

McIntosh Paper Co.....
(300,000 lbs. only) 7.13c
Central Ohio Paper Co..... 7.10c
Mudge Paper Co..... 6.41c
Bulkley Dunton & Co..... 6.35c
R. P. Andrews Paper Co..... 6.30c
Stanford Paper Co.....
(500,000 lbs. only) 6.64c
(Balance) 7.085c
Butler Co. ..... 7.0765c
Frank Parsons Paper Co..... 6.401c
Chatfield & Woods Co..... 7.10c
Bradner Smith & Co.....
(750,000 lbs. only) 6.87c
Birmingham & Prosser Co..... 6.84c
Graham Paper Co.....
(1,300,000 lbs. only) 7.06c
(200,000 lbs. only) 7.96c
Marquette Paper Corp..... 6.57c
Swigart Paper Co.....
(750,000 lbs. only 6.94c
Walker Goulard Plehn, Inc..... 5.67c
Whitaker Paper Co.....
(750,000 lbs. only) 6.27c
D. L. Ward Co. .....
(1,000,000 lbs. only 6.63c

### Antique Book

No. 22—600,000 lbs., 25x38—100; flat, cut 38x50 ins.

St. Regis Paper Co..... 7.00c
Mudge Paper Co..... 6.08c
Bulkley Dunton & Co..... 6.25c
R. P. Andrews Paper Co..... 5.68c
Stanford Paper Co..... 5.73c
Cauthorne Paper Co., Inc..... 6.67c
Willcox, Walker, Furlong Co..... 6.50c
Birmingham & Prosser Co..... 6.54c
Marquette Paper Corp..... 6.42c
Walker Goulard Plehn Inc..... 5.47c
Perkins-Goodwin Co. ..... 6.24c
Paper Corp. of U. S..... 6.38c
Whitaker Paper Co..... 6.14c
Old Dominion Paper Co.....
(200,000 lbs. only) 6.7433c
6.9928c

### Lightweight Machine Finish Book

No. 23—60,000 lbs., 25x38—60; flat, cut 38x48 ins.

Bulkley Dunton & Co..... 7.80c
Stanford Paper Co. ..... 8.21c
Graham Paper Co..... 7.31c
Marquette Paper Corp..... 7.22c
Paper Corp. of U. S..... 7.91c
Whitaker Paper Co..... 7.71c

### 50 Per Cent Lightweight Machine-Finish Book

No. 24—60,000 lbs., 25x38—60; flat, cut 38x48 ins. Min. order 10,000 lbs.

Dill & Collins, Inc..... 16.47c
Birmingham & Prosser Co..... 16.00c
Paper Corp. of U. S..... 16.44c
Whitaker Paper Co..... 16.20c
Old Dominion Paper Co..... 16.31c

### 50 Per Cent Antique Book

No. 26—200,000 lbs., 25x38—80; flat, cut 38x48 ins.

Dill & Collins, Inc..... 12.36c
Paper Corp. of U. S..... 12.13c
Birmingham & Prosser Co..... 12.10c
Marquette Paper Co..... 11.88c
Paper Corp. of U. S..... 13.47c
Whitaker Paper Co..... 11.98c
Aetna Paper Co..... 11.73c
Old Dominion Paper Co..... 11.76c

No. 27—80,000 lbs., 25x38—80; flat, cut 22¾x31½ ins.

Dill & Collins, Inc..... 12.95c
Cauthorne Paper Co., Inc..... 12.33c
Birmingham & Prosser Co..... 12.35c
Marquette Paper Corp..... 12.09c
Paper Corp. of U. S..... 13.47c
Whitaker Paper Co..... 11.98c
Aetna Paper Co..... 11.73c
Old Dominion Paper Co. ..... 11.76c

### 75 Per Cent Laid Antique Book

No. 29—30,000 lbs., 25x38—140; flat, cut 24x38 ins.; the laid marks to run the 24-inch direction of the sheet; the grain and chain marks to run lengthwise of the sheet.

R. P. Andrews Paper Co..... 14.87c
Cauthorne Paper Co..... 15.97c
Graham Paper Co..... 17.50c
Swigart Paper Co..... 17.60c
Paper Corp. of U. S..... 17.51c
Whitaker Paper Co..... 15.84c
Aetna Paper Co..... 15.87c

### Supercalendered Book

No. 33—1,500,000 lbs., 25x38—90; flat, cut 31¼x45½, and 39x50 ins.

Mudge Paper Co..... 6.33c
R. P. Andrews Paper Co..... 6.08c
Frank Parsons Paper Co..... 6.383c
Marquette Paper Co..... 5.73c
Perkins-Goodwin Co. ..... 6.24c

No. 34—500,000 lbs., 25x38—100; flat, cut 38x48 ins.

Mudge Paper Co..... 6.19c
R. P. Andrews Paper Co. ..... 5.97c
Stanford Paper Co..... 6.44c
Butler Co. ..... 6.732c
Frank Parsons Paper Co..... 6.186c
Marquette Paper Corp..... 5.58c
Perkins-Goodwin Co. ..... 6.24c
Whitaker Paper Co..... 6.76c

No. 35—2,000,000 lbs., 25x38—90; rolls, 28½ and 38 ins. wide (3-inch fiber cores).

Mudge Paper Co..... 5.94c
Bulkley Dunton & Co..... 6.19c
R. P. Andrews Paper Co..... 5.77c
Graham Paper Co..... 5.44c
Marquette Paper Corp..... 6.032c
Perkins-Goodwin Co. ..... 5.83c
Paper Corp. of U. S..... 5.81c

### Machine-Coated Book

No. 37—1,000,000 lbs., 25x38—90; flat, cut 35x45, 38x48, and 39x50 ins.

Barton, Duer & Koch Paper Co... 6.05c

No. 38—2,500,000 lbs. 25x38—100 and 120; flat, cut 35x45, 38x48, and 39x50 ins.

Mead Sales Co., Inc..... 6.112c
Stanford Paper Co.....
(500,000 lbs. only) 6.14c
Butler Co. ..... 5.972c
Barton, Duer & Koch Paper Co... 5.00c
Walker Goulard Plehn, Inc..... 5.27c

No. 39—500,000 lbs., 25x38—90; rolls, 28½ and 38 ins. wide (3-inch fiber cores).

Barton, Duer & Koch Paper Co... 4.65c

No. 40—1,000,000 lbs., 25x38—100 and 120; rolls, 28½ and 38 ins. wide (3-inch fiber cores).

Mead Sales Co., Inc..... 5.762c
Barton, Duer & Koch Paper Co... 4.65c
Whitaker Paper Co..... 5.36c

### Coated Book

No. 41—1,000,000 lbs., 25x38—140 and 160; flat, cut 38x48, and 39x50 ins.; the grain to run lengthwise of the sheet.

John F. Post, Inc..... 8.00c
R. P. Andrews Paper Co.....
(500,000 lbs. only) 7.90c
Stanford Paper Co..... 7.58c
Butler Co. ....(300,000 lbs. only) 7.33c
(300,000 lbs. only) 6.77c
Birmingham & Prosser Co.....
(250,000 lbs. only 7.33c
(250,000 lbs. only 6.77c
Marquette Paper Corp..... 7.42c
Chicago Paper Co.....
(250,000 lbs. only) 8.19c
Walker Goulard Plehn, Inc.....
(500,000 lbs. only) 7.33c
(500,000 lbs. only) 6.77c
Perkins-Goodwin Co..... 7.62c
Paper Corp. of U. S.....
(500,000 lbs. only) 7.70c
Whitaker Paper Co.....
(500,000 lbs. only) 7.72c
Kennelly Paper Co., Inc.....
(500,000 lbs. only) 7.98c
7.92c

### 50 Per Cent Machine-Finish Lithograph

No. 43—80,000 lbs., 25x38—160; flat, cut 10½x16 ins., the grain to run lengthwise of the sheet.

Collins Mfg. Co..... 12.10c
Mudge Paper Co..... 13.68c
Stanford Paper Co..... 14.50c
Whiting Paper Co..... 14.50c
Chatfield & Woods Co..... 14.50c
Marquette Paper Corp..... 13.14c
Walker Goulard Plehn, Inc..... 12.96c
Whitaker Paper Co..... 12.33c
Aetna Paper Co..... 12.06c
Old Dominion Paper Co..... 12.62c

### Ground Wood Mimeograph

No. 44—4,000,000 lbs., No. 36; flat, cut 32½x42½, and 38x48½ ins., grain as ordered.

Resolute Paper Prods. Corp..... 4.35c
3.85c
Combined Lots Paper Co..... 4.723c
St. Regis Paper Co..... 4.38c
Mead Sales Co., Inc.....
(3,000,000 lbs. only) 4.60c
(1,000,000 lbs. only) 4.70c
Bulkley Dunton & Co.....
(2,000,000 lbs. max.) 4.65c
(1,300,000 lbs. max.) 4.60c
Frank Parsons Paper Co..... 4.48c
Lamey Paper Co..... 4.937c
Barton, Duer & Koch Paper Co. 5.15c
Birmingham & Prosser Co.....
(2,000,000 lbs. only) 4.40c
Paper Corp. of U. S..... 4.81c
Whitaker Paper Co.....
(2,000,000 lbs. only) 4.65c
Old Dominion Paper Co..... 4.3424c

FROM THE ORIGINAL, PAINTED ESPECIALLY FOR NIAGARA ALKALI COMPANY BY DE POSTELS

FOR MORE than thirty years Niagara Alkali Company and Electro Bleaching Gas Company have been working side by side, each serving its customers separately. Today their manufacturing, research and personnel facilities are unified into one compact organization, geared for service on a more efficient scale. Resources and products remain the same, as do the friendly customer relations that have been built up over the years. But the new organization is prepared to give smoother, more satisfactory service — and to respond with a fuller measure to the demands of the industries that use its products. The name of this new organization is NIAGARA ALKALI COMPANY.

EBG Niagara Alkali Company

60 EAST 42nd STREET, NEW YORK, N. Y.

CAUSTIC POTASH · CAUSTIC SODA
PARA · CARBONATE OF POTASH
Liquid Chlorine

### Mimeograph, White and Colored

No. 45—500,000 lbs., white, Nos. 40; and 48; flat, cut 32½x42½, and 38 x48½ ins.; the grain to run as ordered.

| | |
|---|---|
| Bulkley Dunton & Co. | 5.97c |
| R. P. Andrews Paper Co. | 5.92c |
| Stanford Paper Co. | 5.73c |
| Eastern Corp. | 6.67c |
| Cauthorne Paper Co., Inc. | 6.47c |
| Barton, Duer & Koch Paper Co. | 6.00c |
| Marquette Paper Corp. | 5.90c |
| Walker Goulard Plehn, Inc. | 6.51c |
| Perkins-Goodwin Co. | 6.24c |
| Whitaker Paper Co. | 5.69c |

No. 46—250,000 lbs., blue, buff, green, pink and yellow, No. 40; flat, cut 32½x42½ and 38x48½ ins.; the grain to run as ordered. Min. order, one color, 10,000 lbs.

| | |
|---|---|
| Stanford Paper Co. | 7.24c |
| Eastern Corp. | 7.37c |
| Cauthorne Paper Co. Inc. | 7.11c |
| Virginia Paper Co. | 7.40c |
| Birmingham & Prosser Co. | 7.37c |
| Marquette Paper Corp. | 6.15c |
| Whitaker Paper Co. | 7.49c |
| D. L. Ward Co. | 7.69c |
| Aetna Paper Co. | 7.17c |

### 25 Per Cent Mimeograph

No. 48—500,000 lbs., Nos. 40 and 48; flat, cut 32½x42½, 34½x44, and 38x48½ ins.; the grain to run as ordered.

| | |
|---|---|
| Collins Mfg. Co. (150,000 lbs. only) | 10.00c |
| Central Ohio Paper Co. | 10.00c |
| Mudge Paper Co. | 9.84c |
| Seaman Paper Co. (200,000 lbs. only) | 10.1987c |
| R. P. Andrews Paper Co. | 9.17c |
| Stanford Paper Co. | 9.98c |
| Butler Co. (200,000 lbs. only) | 9.61c |
| (300,000 lbs. only) | 9.99c |
| Chatfield & Woods Co. | 10.00c |
| Cauthorne Paper Co., Inc. | 8.91c |
| Bradner Smith & Co. | 9.845c |
| Barton, Duer & Koch Paper Co. | 9.95c |
| Virginia Paper Co. | 8.59c |
| Birmingham & Prosser Co. | 9.46c |
| Graham Paper Co. | 10.00c |
| Paper Corp. of U. S. | 9.94c |
| Whitaker Paper Co. | 10.25c |
| Aetna Paper Co. | 9.88c |
| Old Dominion Paper Co. | 9.36c |

### Blue U S M O Safety Writing

No. 51—600,000 lbs., No. 32; rolls, 22 ins. wide, 24 ins. in diameter (3-inch fiber cores).

| | |
|---|---|
| R. P. Andrews Paper Co. | 11.98c |
| D. L. Ward Co. (300,000 lbs. only) | 11.95c |

### U S M O Writing, White and Blue

No. 52—8,000 lbs., No. 32; rolls, 8½ inches wide, 24 ins. in diameter (3-inch fiber cores). Min. order, either color, 2,000 lbs.

| | |
|---|---|
| R. P. Andrews Paper Co. (white) (min. order 5,000 lbs.) | 11.50c |
| (blue) (min. order 5,000 lbs.) | 12.00c |

### Sulphite Writing, White and Colored

No. 54—250,000 lbs., white, No. 26; flat, cut 32x42 ins.

| | |
|---|---|
| Mudge Paper Co. | 7.75c |
| R. P. Andrews Paper Co. | 7.24c |
| Butler Co. | 7.80c |
| Eastern Corp. | 8.16c |
| Cauthorne Paper Co., Inc. | 8.01c |
| Barton, Duer & Koch Paper Co. | 7.71c |
| North American Pulp & Paper Corp. | 7.70c |
| Marquette Paper Corp. | 7.73c |
| Paper Corp. of U. S. | 7.40c |
| Whitaker Paper Co. | 7.47c |
| D. L. Ward Co. | 7.43c |

No. 55—6,000,000 lbs., white, No. 32; flat, cut any size, min. width 21 ins., max. width 34 ins.

| | |
|---|---|
| Baxter Paper Co. (1,000,000 lbs. only) | 7.27c |
| Central Ohio Paper Co. (1,000,000 lbs. only) | 7.27c |
| Mudge Paper Co. | 6.75c |
| Mead Sales Co., Inc. (1,000,000 lbs. only) | 6.98c |
| R. P. Andrews Paper Co. | 6.15c |
| Stanford Paper Co. (1,000,000 lbs. only) | 7.27c |
| Butler Co. (1,000,000 lbs. only) | 6.621c |
| Eastern Corp. | 6.64c |
| Cauthorne Paper Co., Inc. (1,000,000 lbs. only) | 7.27c |
| North American Pulp & Paper Corp. (500,000 lbs. only) | 6.90c |
| Marquette Paper Corp. (total tonnage 8,000,000 lbs. lots 55 and 56) | 6.47c |
| (200,000 lbs. only) | 6.36c |
| Perkins-Goodwin Co. (2,000,000 lbs. only) | 6.46c |
| Paper Corp. of U. S. (1,500,000 lbs. only) | 6.49c |
| Whitaker Paper Co. (3,000,000 lbs. only) | 5.90c |
| D. L. Ward Co. (1,000,000 lbs. only) | 5.72c |
| (1,000,000 lbs. only) | 5.94c |
| (1,000,000 lbs. only) | 6.13c |

No. 56—8,000,000 lbs., white, Nos. 40 and 48; flat, cut any size, min. width 21 ins., max. width 42 ins.

| | |
|---|---|
| Central Ohio Paper Co. (1,000,000 lbs. only) | 6.95c |
| Mudge Paper Co. | 6.75c |
| Mead Sales Co., Inc. (1,000,000 lbs. only) | 6.98c |
| Bulkley Dunton & Co. (4,000,000 lbs. only) | 6.43c |
| (4,000,000 lbs. only) | 6.55c |
| R. P. Andrews Paper Co. (4,000,000 lbs. only) | 5.92c |
| Stanford Paper Co. (1,200,000 lbs. only) | 6.34c |
| (1,200,000 lbs. only) | 6.49c |
| (1,600,000 lbs. only) | 6.64c |
| Eastern Corp. | 6.64c |
| Cauthorne Paper Co. Inc. (1,000,000 lbs. only) | 6.98c |
| Barton, Duer & Koch Paper Co. | 6.79c |
| North American Pulp & Paper Corp. (300,000 lbs. only) | 7.00c |
| Marquette Paper Corp. (total tonnage 8,000,000 lbs. lots 55 and 56) | 6.47c |
| (500,000 lbs. only) | 6.34c |
| Walker Goulard Plehn, Inc. (1,000,000 lbs. only) | 6.67c |
| Perkins-Goodwin Co. (2,000,000 lbs. only) | 5.90c |
| (2,000,000 lbs. only) | 6.01c |
| (2,000,000 lbs. only) | 6.24c |
| Paper Corp. of U. S. (all or none) | 6.35c |
| Whitaker Paper Co. | 5.95c |
| D. L. Ward Co. (1,000,000 lbs. only) | 5.72c |
| (1,000,000 lbs. only) | 5.94c |
| (1,000,000 lbs. only) | 6.13c |

No. 57—250,000 lbs., white, No. 26; rolls, min. width 16 ins., max. width 38 ins. (3-inch fiber cores).

| | |
|---|---|
| R. P. Andrews Paper Co. | 6.95c |
| Butler Co. | 7.299c |
| Eastern Corp. | 7.87c |
| Cauthorne Paper Co., Inc. | 7.19c |
| Barton, Duer & Koch Paper Co. | 6.79c |
| North American Pulp & Paper Corp. | 7.00c |
| Marquette Paper Corp. | 7.35c |
| Paper Corp. of U. S. | 7.00c |
| Whitaker Paper Co. | 6.74c |
| D. L. Ward Co. | 7.19c |

No. 58—2,000,000 lbs., white, No. 32; rolls, min. width 16 ins., max. width 48 ins. (3-inch fiber cores).

| | |
|---|---|
| Central Ohio Paper Co. (1,000,000 lbs. only) | 6.30c |
| Mead Sales Co., Inc. (1,000,000 lbs. only) | 6.65c |
| Bulkley Dunton & Co. | 5.98c |
| R. P. Andrews Paper Co. | 5.59c |
| Eastern Corp. | 6.40c |
| Cauthorne Paper Co., Inc. (1,000,000 lbs. only) | 6.46c |
| (1,000,000 lbs. only) | 6.55c |
| Barton, Duer & Koch Paper Co. | 6.27c |
| Birmingham & Prosser Co. | 6.07c |
| North American Pulp & Paper Corp. (500,000 lbs. only) | 6.75c |
| Marquette Paper Corp. | 5.709c |
| Walker Goulard Plehn Inc. | 6.07c |
| Perkins-Goodwin Co. | 5.76c |
| Paper Corp. of U. S. (all or none) | 6.00c |
| Whitaker Paper Co. (1,000,000 lbs. only) | 5.43c |
| D. L. Ward Co. (1,000,000 lbs. only) | 5.59c |
| (1,000,000 lbs. only) | 6.46c |

No. 59—100,000 lbs., white, Nos. 40 and 48; rolls, min. width 16 ins., max. width 48 ins. (3-inch fiber cores).

| | |
|---|---|
| Mead Sales Co., Inc. | 6.65c |
| Bulkley Dunton & Co. | 6.14c |
| R. P. Andrews Paper Co. | 5.71c |
| Eastern Corp. | 6.40c |
| Chatfield & Woods Co. | 6.37c |
| Cauthorne Paper Co. Inc. | 6.40c |
| Barton, Duer & Koch Paper Co. | 6.24c |
| North American Pulp & Paper Corp | 6.75c |
| Marquette Paper Corp. | 5.88c |
| Paper Corp. of U. S. (all or none) | 6.00c |
| Whitaker Paper Co. | 5.36c |
| D. L. Ward Co. | 5.59c |

No. 60—500,000 lbs., blue, buff, green, pink, salmon and yellow, No. 26; flat, cut any size, min. width 21 ins., max. width 38 ins. Min. order, one color, 5,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 8.25c |
| Eastern Corp. | 9.07c |
| Cauthorne Paper Co., Inc. | 9.80c |
| North American Pulp & Paper Corp. | 8.00c |
| Marquette Paper Corp. | 8.48c |
| Paper Corp. of U. S. | 8.15c |
| Aetna Paper Co. | 8.46c |
| Old Dominion Paper Co. | 8.7289c |

No. 61—1,500,000 lbs., blue, buff, green, pink, salmon and yellow Nos. 32 and 40; flat, cut any size, min. width 21 ins., max. width 34 ins. Min. order, one color, 10,000 lbs.

| | |
|---|---|
| Central Ohio Paper Co. (500,000 lbs. only) | 7.50c |
| Mudge Paper Co. | 7.25c |
| Whitehead & Alliger Co., Inc. (500,000 lbs. only) | 7.50c |
| Stanford Paper Co. (500,000 lbs. only) | 6.83c |
| Eastern Corp. | 7.37c |
| Cauthorne Paper Co., Inc. | 7.96c |
| Barton, Duer & Koch Paper Co. (250,000 lbs. only) | 8.10c |
| Whiting Patterson Co., Inc. (500,000 lbs. only) | 7.50c |
| Marquette Paper Corp. | 7.38c |
| Walker Goulard Plehn Inc. | 7.67c |
| Whitaker Paper Co. | 7.34c |
| D. L. Ward Co. | 7.12c |
| Aetna Paper Co. (500,000 lbs. only) | 7.63c |
| Old Dominion Paper Co. | 7.7298c |

No. 62—500,000 lbs., blue, buff, green, pink, salmon and yellow, Nos. 32 and 40; rolls, 32 and 38 ins. (3-inch fiber cores).

| | |
|---|---|
| Mead Sales Co., Inc. | 7.40c |
| Frank Parsons Paper Co. | 7.04c |
| Eastern Corp. | 7.13c |
| Cauthorne Paper Co., Inc. | 7.42c |
| Barton, Duer & Koch Paper Co. (300,000 lbs. only) | 7.75c |
| Marquette Paper Corp. | 6.88c |
| Paper Corp. of U. S. | 7.45c |
| Whitaker Paper Co. | 6.61c |
| D. L. Ward Co. | 6.87c |
| Aetna Paper Co. | 7.28c |
| Old Dominion Paper Co. | 7.2318c |

### Lithograph-Finish Map

No. 64—80,000 lbs. Nos. 32 and 40 flat, cut any size. Min. width 22 ins. Maximum width 48 ins.

| | |
|---|---|
| Bulkley Dunton & Co. | 7.74c |
| R. P. Andrews Paper Co. | 7.47c |
| Bradner Smith & Co. | 8.90c |
| Willcox Walter Furlong Co. | 8.47c |
| Whitaker Paper Co. | 7.69c |
| D. L. Ward Co. | 8.97c |

### 50 Per Cent Lithograph-Finish Map

No. 65—1,000,000 lbs., Nos. 32, 40, 48 and 56; flat, cut any size, min. width 22 ins., max. width, 48 ins., the grain to run lengthwise of the sheet.

| | |
|---|---|
| Collins Mfg. Co. (250,000 lbs. only) | 13.49c |
| (250,000 lbs. only) | 13.79c |
| Mudge Paper Co. (500,000 lbs. only) | 16.64c |
| Bulkley Dunton & Co. | 14.32c |
| R. P. Andrews Paper Co. (500,000 lbs. only) | 11.93c |
| Stanford Paper Co. | 13.96c |
| Whiting Paper Co. | 15.50c |
| Bradner Smith & Co. (total tonnage 200,000 lbs. lots 65, 66, 67, 111 and 112) | 14.85c |
| Carpenter Paper Co. (total tonnage 200,000 lbs. only) | 14.92c |
| Graham Paper Co. (100,000 lbs. only) | 15.00c |
| (300,000 lbs. only) | 13.50c |
| Walker Goulard Plehn Inc. (200,000 lbs. only) | 14.45c |
| Paper Corp. of U. S. | 14.80c |

Whitaker Paper Co. ..... 15.19c
Old Dominion Paper Co. ..... (200,000 lbs. only) 13.974c

### 75 Per Cent Lithograph-Finish Map

No. 66—800,000 lbs., Nos. 32 and 40; flat, cut any size, min. width 24 ins., max. width 48 ins.; the grain to run lengthwise of the sheet.

Baxter Paper Co. ..... (400,000 lbs. only) 15.35c
Mudge Paper Co. ..... 17.66c
R. P. Andrews Paper Co. ..... (400,000 lbs. only) 15.97c
Whiting Paper Co. ..... 18.40c
Bradner Smith & Co. ..... (200,000 lbs. only) 18.33c
Carpenter Paper Co. ..... (300,000 lbs. only) 17.86c
Paper Corp. of U. S. ..... 17.50c
Whitaker Paper Co. ..... (200,000 lbs. only) 20.19c

No. 67—120,000 lbs., Nos. 48 and 56; flat, cut any size, min. width 30 ins., max. width 48 ins.; the grain to run leangthwise of the sheet. Min. order, one substance, 5,000 lbs.

Mudge Paper Co. ..... 17.46c
R. P. Andrews Paper Co. ..... 15.97c
Whiting Paper Co. ..... 18.40c
Bradner Smith & Co. (200,000 lbs.) 18.33c
Birmingham & Prosser Co. ..... 18.38c
Graham Paper Co. ..... 15.25c
Paper Corp. of U. S. ..... 17.20c
Whitaker Paper Co. ..... 20.19c

### 100 Per Cent White Chart, Lithograph-Finish

No. 68—400,000 lbs., Nos. 83 and 96; flat, cut any size, min. width 22 ins., max. width 46 ins.; packed in cases of 1,000 sheets each; the grain to run lengthwise of the sheet unless otherwise specified.

Mudge Paper Co. ..... (400,000 lbs. only) 24.37c
Bulkley Dunton & Co. (max. 100,000 lbs. lots, 68, 69 and 70 combined) ..... 23.40c
R. P. Andrews Paper Co. (max. 100,000 lbs. lots, 68, 69 and 70 combined) ..... 19.97c
Whiting Paper Co. ..... 23.00c
Barton, Duer & Koch Paper Co. (total tonnage 400,000 lbs., lots 68, 69 and 70) ..... 21.88c
Walker Goulard Plehn Inc. (tonnage 400,000 lbs., lots 68, 69 and 70) ..... 23.40c
Paper Corp. of U. S. ..... 21.65c

No. 69—400,000 lbs., Nos. 83 and 96; flat, cut any size, min. width 22 ins., max. width 46 ins.; packed in cases of 1,000 sheets each; the grain to run lengthwise of the sheet unless otherwise specified.

Mudge Paper Co. ..... (400,000 lbs. only) 24.37c
Bulkley, Dunton & Co. ..... 23.40c
R. P. Andrews Paper Co. ..... 19.97c
Whiting Paper Co. ..... 23.00c
Barton, Duer & Koch Paper Co. 21.88c
Walker Goulard Plehn Inc. ..... 23.40c
Paper Corp. of U. S. ..... 21.65c

No. 70—400,000 lbs., Nos. 83 and 96; flat, cut any size, min. width 22 ins., max. width 46 ins.; packed in cases of 1,000 sheets each; the grain to run lengthwise of the sheet unless otherwise specified.

Mudge Paper Co. ..... 24.37c
Bulkley Dunton & Co. ..... 23.40c
R. P. Andrews Paper Co. ..... 19.97c
Whiting Paper Co. ..... 23.00c
Barton, Duer & Koch Paper Co. 21.88c
Walker Goulard Plehn Inc. ..... 23.40c
Paper Corp. of U. S. ..... 21.65c
Whitaker Paper Co. ..... 24.48c

### Sulphite Manifold, White and Colored

No. 71—600,000 lbs., white, No. 18; flat, cut 21x32, and 32x42 ins.; the grain to run 21-inch and 42-inch ways.

Resolute Paper Prods. Corp. ..... 9.99c
Import Paper Co. (less 2% 20 days) 8.75c
Coy, Hunt & Co. ..... 10.00c
Seaman Paper Co. ..... 9.00c
Bulkley Dunton & Co. (maximum 50,000 lbs. one shipment) ..... 8.75c
R. P. Andrews Paper Co. ..... 9.40c
Frank Parsons Paper Co. ..... 8.94c
Cauthorne Paper Co., Inc. ..... 9.108c
Birmingham & Prosser Co. ..... 8.44c
North American Pulp & Paper Corp. ..... 8.25c
Marquette Paper Corp. ..... 8.72c
Mathers-Lamm Paper Co. ..... 9.94c
Walker Goulard Plehn Inc. ..... 9.88c
Paper Corp. of U. S. ..... 9.00c
Old Dominion Paper Co. ..... 9.964c

No. 72—100,000 lbs. white, No. 18 rolls, 24 ins. wide. (3-inch fiber cores).

Resolute Paper Products Corp. ... 9.00c
Import Paper Co. (less 2% 20 days) 8.00c
Coy Hunt & Co. ..... 9.00c
Seaman Paper Co. ..... 8.50c
R. P. Andrews Paper Co. ..... 8.90c
Butler Co. ..... 8.31c
Frank Parsons Paper Co. ..... 8.49c
Chatfield & Woods Co. ..... 8.50c
Cauthorne Paper Co., Inc. ..... 7.967c
Bradner Smith & Co. ..... 8.30c
Birmingham & Prosser Co. ..... 7.74c
North American Pulp & Paper Corp. ..... 8.00c
Marquette Paper Corp. ..... 8.22c
Mathers-Lamm Paper Co. ..... 8.948c
Walker Goulard Plehn Inc. ..... 8.89c
Paper Corp. of U. S. ..... 8.50c
Old Dominion Paper Co. ..... 8.977c

No. 73—200,000 lbs., blue, green, pink, and yellow, No. 18; flat, cut 21x32, 22x34, 28x34 and 32x42 ins.; the grain to run the 21-inch and 42-inch ways. Min. order, one color 5,000 lbs.

Resolute Paper Products Corp. ... 10.49c
Import Paper Co. (less 2% 20 days) 9.50c
Coy, Hunt & Co. ..... 10.50c
Seaman Paper Co. ..... 9.75c
Cauthorne Paper Co., Inc. (min. order 40,000 lbs. one color) .... 9.858c
Birmingham & Prosser Co. ..... 10.69c
North American Pulp & Paper Corp. ..... 9.00c
Marquette Paper Corp. ..... 9.72c
Mathers-Lamm Paper Co. ..... 10.439c
Walker Goulard Plehn Inc. ..... 10.38c
Paper Corp. of U. S. ..... 9.75c
Old Dominion Paper Co. ..... 10.474c

### 50 Per Cent Manifold, White and Colored

No. 75—300,000 lbs., white, No. 14; flat, cut 38x48 ins. Min. order, 5,000 lbs.

Marquette Paper Co. ..... (150,000 lbs. only) 20.00c 22.00c

No. 76—1,000,000 lbs., white, No. 18; flat, cut 21x32, 22x34, 28x34, and 32x42 ins.; the grain to run the 21-inch and 42-inch ways.

R. P. Andrews Paper Co. ..... (100,000 lbs. only) 19.47c (400,000 lbs. only) 18.00c (300,000 lbs. only) 18.75c (400,000 lbs. only) 19.00c
Butler Co. ..... (400,000 lbs. only) 17.97c (400,000 lbs. only) 18.62c
Barton, Duer & Koch Paper Co... (100,000 lbs. only) 21.00c
Graham Paper Co. ..... (36,000 lbs. only) 19.95c
Chicago Paper Co. ..... (200,000 lbs. only) 17.25c
Walker Goulard Plehn Inc. ..... (100,000 lbs. only) 18.43c
Paper Corp. of U. S. ..... (100,000 lbs. only) 19.49c
Whitaker Paper Co. ..... (200,000 lbs. only) 20.49c
Old Dominion Paper Co. ..... (90,000 lbs. only) 19.974c

No. 77—150,000 lbs., white, No. 18; rolls, 24 ins. wide. (3-inch fiber cores).

Mudge Paper Co. ..... 18.13c
Whiting Paper Co. ..... 25.00c
Barton, Duer & Koch Paper Co. ... (115,000 lbs. only) 19.00c
Walker Goulard Plehn Inc. ..... (100,000 lbs. only) 17.97c
Paper Corp. of U. S. ..... 18.74c

No. 78—500,000 lbs., blue, cherry, green, pink, salmon and yellow, No. 18; flat, cut 21x32, 22x34, and 28x34 ins.; the grain to run the 21-inch way on the 21x32-inch size. Min. order, one color, 5,000 lbs.

Birmingham & Prosser Co. ..... (200,000 lbs. only) 19.03c
Walker Goulard Plehn Inc. ..... (100,000 lbs. only) 19.80c
Paper Corp. of U. S. ..... (300,000 lbs. only) 20.24c
Old Dominion Paper Co. ..... (100,000 lbs. only) 20.724c

### 100 Per Cent White Manifold

No. 84—60,000 lbs., No. 18; flat, cut 32x42 ins.; the grain to run the 42-inch way. Min. order 5,000 lbs.

Baxter Paper Co. ..... 26.50c
R. P. Andrews Paper Co. ..... 31.55c
Willcox, Walter Furlong Co. .... 28.90c
Old Dominion Paper Co. ..... 29.718c

### 50 Per Cent White Glazed Manifold

No. 85—500,000 lbs., No. 16; flat, cut 32x42 ins.; the grain to run the 42-inch way. Min. order 20,000 lbs.

R. P. Andrews Paper Co. ..... (250,000 lbs. only) 27.03c
Barton, Duer & Koch Paper Co. .. (150,000 lbs. only) 19.75c (150,000 lbs. only) 21.25c

### Sulphite White Bond

No. 102—2,000,000 lbs., No. 40; flat, cut any size, min. width 21 ins.; max. width 37 ins.

Bulkley Dunton & Co. ..... 6.81c
R. P. Andrews Paper Co. ..... (1,000,000 lbs. only) 6.33c
Eastern Corp. ..... 6.64c
Cauthorne Paper Co., Inc. ..... 6.988c
Barton, Duer & Koch Paper Co... (1,200,000 lbs. only) 6.73c
Willcox, Walter Furlong Co. ... (1,000,000 lbs. only) 6.90c
North American Pulp & Paper (200,000 lbs. only) 7.50c
Marquette Paper Corp. ..... 6.46c
Whitaker Paper Co. ..... 6.36c
D. L. Ward Co. ..... 6.21c
Old Dominion Paper Co. ..... 6.7327c

### 25 Per Cent Bond, White and Colored

No. 105—600,000 lbs., white, No. 26; flat, cut any size, min. width 21 ins.; max. width 34 ins.

Tobey Fine Paper Inc. ..... (50,000 lbs. only) 15.50c
Whiting Paper Co. ..... 16.20c
Whitaker Paper Co. ..... 14.48c
Aetna Paper Co. ..... (300,000 lbs. only) 14.96c

No. 106—1,500,000 lbs., white No. 32; flat, cut any size, min. width 21 ins., max. width 34 ins.

Central Ohio Paper Co. ..... (250,000 lbs. only) 12.60c (100,000 lbs. only) 11.96c
Bulkley Dunton & Co. ..... (400,000 lbs. only) 11.31c
Butler Co. ....(300,000 lbs. only) 12.21c
Whiting Paper Co. ..... 13.20c
Bradner Smith & Co. ..... (400,000 lbs. only) 12.43c
Carpenter Paper Co. (200,000 lbs., lots 106 or 107) ..... 12.43c
Barton, Duer & Koch Paper Co. .... (360,000 lbs. only) 12.68c
Virginia Paper Co. (total tonnage (100,000 lbs., iots 106 or 155) 12.93c
Birmingham & Prosser Co. ..... (500,000 lbs. only) 12.01c
Millcraft Paper Co. ..(40,000 lbs.) 12.92c
Whitaker Paper Co. ..... (500,000 lbs. only) 11.98c
Aetna Paper Co. ..... (800,000 lbs. only) 11.94c

No. 107—3,000,000 lbs., white, No. 40; flat, cut any size, min. width 21 ins., max. width 34 ins.

Collins Mfg. Co. ..... (750,000 lbs. only) 11.47c (750,000 lbs. only) 11.87c
E. E. Lloyd Co. ..... (150,000 lbs. only) 12.60c
Baxter Paper Co. ..... (300,000 lbs. only) 11.11c
Central Ohio Paper Co. ..... 12.60c
Butler Co. ....(400,000 lbs. only) 11.698c (300,000 lbs. only) 11.867c (300,000 lbs. only) 12.073c
Whiting Paper Co. ..... 12.90c
Bradner Smith & Co. ..... (400,000 lbs. only) 12.43c
Carpenter Paper Co. ..... 12.43c
Barton, Duer & Koch Paper Co. .. 12.12c
Merriam Paper Co. ..... (300,000 lbs. only) 11.11c

Whitaker Paper Co. .....
(1,000,000 lbs. only) 11.71c
(200,000 lbs. only) 11.11c
Aetna Paper Co. .....
(1,000,000 lbs. only) 11.72c
(500,000 lbs. only) 12.02c

No. 108—3,000,000 lbs., white, No. 40; flat, cut any size, min. width 21 ins., max. width 48 ins.

Collins Mfg. Co. .....
(750,000 lbs. only) 11.47c
(750,000 lbs. only) 11.87c
Butler Co. .....(400,000 lbs. only) 11.82c
(300,000 lbs. only) 11.96c
(300,000 lbs. only) 12.14c
Whiting Paper Co. ..... 12.90c
Barton, Duer & Koch Paper Co. ..
(360,000 lbs. only) 12.62c
Willcox, Walter Furlong Co. .....
(200,000 lbs. only) 11.11c
Forest Paper Co., Inc. .....
(300,000 lbs. only) 11.11c
Aetna Paper Co. .....
(1,000,000 lbs. only) 11.72c
12.02c

No. 109—100,000 lbs., white, No. 26; rolls, 34 ins. wide. (3-inch fiber cores.)

Resolute Paper Prods. Corp. ..... 15.60c
Whiting Paper Co. ..... 16.20c
Chicago Paper Co. ..... 13.75c
Aetna Paper Co. ..... 14.61c

No. 110—300,000 lbs., yellow, No. 26; flat, cut 34x44 ins. Min. order 5,000 lbs.

Resolute Paper Prod. Corp. .....
(100,000 lbs. only) 15.88c
R. P. Andrews Paper Co. ..... 13.93c
Whiting Paper Co. ..... 16.90c
Walker Goulard Plehn Inc. .....
(100,000 lbs. only) 18.33c
Whitaker Paper Co. ..... 15.18c
Aetna Paper Co. ..... 15.87c

No. 111—800,000 lbs., blue, buff, cherry, green, pink, salmon and yellow, No. 32; flat, cut any size, min. width 21 ins., max. width 35 ins.

Stanford Paper Co. .....
(400,000 lbs. only) 12.29c
Whiting Paper Co. ..... 13.80c
Bradner Smith & Co. (total tonnage 200,000 lbs., lots 65, 66, 67, 111 and 112) ..... 13.86c
Carpenter Paper Co. (200,000 lbs. only, lots 65 or 111 or 112 or 121) ..... 13.93c
Garrett-Buchanan Co. .....
(200,000 lbs. only) 12.44c
Whiting-Patterson Co., Inc. .....
(200,000 lbs. only) 12.44c
Swigart Paper Co. ..... 14.64c
Aetna Paper Co. .....
(400,000 lbs. only) 12.47c

No. 112—1,200,000 lbs., blue, buff, cherry, green, pink, salmon and yellow, No. 40; flat, cut any size, min. width 21 ins., max. width 34 ins.

Whitehead & Alliger Co., Inc. ....
(100,000 lbs. only) 12.34c
Whiting Paper Co. ..... 13.60c
Cauthorne Paper Co., Inc. .....
(400,000 lbs. only) 12.34c
Bradner Smith & Co. ..... 13.86c
Carpenter Paper Co. ..... 13.93c
Collins Mfg. Co. .....
(600,000 lbs. only) 12.08c
(600,000 lbs. only) 12.49c
Barton, Duer & Koch Paper Co. ..
(300,000 lbs. only) 12.34c
Forest Paper Co., Inc. .....
(300,000 lbs. only) 11.35c
Graham Paper Co. .....
(250,000 lbs. only) 12.13c
(250,000 lbs. only) 12.23c
(600,000 lbs. only) 14.64c
(100,000 lbs. only) 11.36c
Walker Goulard Plehn Inc. .....
(100,000 lbs. only) 14.90c
Aetna Paper Co. .....
(600,000 lbs. only) 12.23c

### 50 Per Cent Bond, White and Colored

No. 120—40,000 lbs., white, No. 26; flat, cut any size, min. width 21 ins., max. width 34 ins.

Tobey Fine Paper Inc. ..... 17.70c
Whiting Paper Co. ..... 18.40c
Barton, Duer & Koch Paper Co. .. 16.50c
Chicago Paper Co. ..... 16.15c
Whitaker Paper Co. ..... 17.23c
Old Dominion Paper Co. ..... 17.98c

No. 121—200,000 lbs., white, Nos. 32 and 40; flat, cut any size, min. width 21 ins., max. width 35 ins.

Tobey Fine Paper Inc. .....
(50,000 lbs. only) 14.40c
Collins Mfg. Co. .....
(200,000 lbs. only) 13.82c
R. P. Andrews Paper Co. ..... 12.46c
Frank Parsons Paper Co. ..... 14.62c
Whiting Paper Co. ..... 14.90c
Chatfield & Woods, Inc. ..... 12.30c
Bradner Smith & Co. ..... 13.80c
Carpenter Paper Co. ..... 14.83c
Whitaker Paper Co. ..... 13.90c
Aetna Paper Co. ..... 13.82c
Old Dominion Paper Co. .....
(36,000 lbs. only) 15.484c

No. 122—40,000 lbs., white, No. 32; rolls, 24 and 32 ins. wide. (3-inch fiber cores.)

Resolute Paper Products Corp .... 14.60c
R. P. Andrews Paper Co. ..... 12.46c
Whiting Paper Co. ..... 15.00c
Chatfield & Woods Co. ..... 12.40c
Barton, Duer & Koch Paper Co. .. 14.35c
Whitaker Paper Co. ..... 13.80c
Aetna Paper Co. ..... 13.47c

No. 123—20,000 lbs., blue, buff cherry, green, pink, salmon and yellow, No. 40; flat, cut any size, min. width 21 ins., max. width 34 ins. Min. order, one color, one substance, 2,500 lbs.

Collins Mfg. Co. ..... 14.42c
Whiting Paper Co. ..... 16.62c
Aetna Paper Co. ..... 14.57c

### 75 Per Cent White Bond

No. 125—2,000 lbs., No. 26; flat, cut any size, min. width 21 ins., max. width 32 ins. Min. order, 2,000 lbs.

Resolute Paper Prods. Corp. ..... 25.50c
Stanford Paper Co. ..... 24.00c
Graham Paper Co. ..... 26.46c
Paper Corp. of U. S. ..... 21.50c
Old Dominion Paper Co. ..... 25.98c

No. 126—2,000 lbs., Nos. 32 and 40; flat, cut any size, min. width 21 ins., max. width 32 ins. Min. order, one substance, 2,000 lbs.

Resolute Paper Prods. Corp. ..... 21.00c
Stanford Paper Co. ..... 20.49c
Graham Paper Co. ..... 21.50c
Walker Goulard Plehn Inc. ..... 20.79c
Paper Corp. of U. S. ..... 21.50c
Old Dominion Paper Co. ..... 21.480c

### 100 Per Cent Rag White Bond

No. 128—40,000 lbs., Nos. 32 and 40; flat, cut any size, min. width 16 ins., max. width 32 ins. Min. order, one substance, 2,000 lbs.

Baxter Paper Co. ..... 21.55c
R. P. Andrews Paper Co. ..... 24.62c
Stanford Paper Co. ..... 24.62c
Butler Co. ..... 23.4321c
Whiting Paper Co. ..... 28.00c
Barton, Duer & Koch Paper Co... 23.25c
Willcox Walter Furlong Co. .... 24.93c
Walker Goulard Plehn Inc. ..... 24.94c
Paper Corp. of U. S. ..... 22.17c
Whitaker Paper Co. ..... 27.72c
Old Dominion Paper Co. ..... 24.967c

No. 129—25,000 lbs., No. 48; flat, cut any size, min. width 16 ins., max. width 32 ins. Min. order, 2,000 lbs.

R. P. Andrews Paper Co. ..... 24.62c
Stanford Paper Co. ..... 24.62c
Whiting Paper Co. ..... 28.00c
Chatfield & Woods Co. ..... 20.50c
Barton, Duer & Koch Paper Co. .. 23.25c
Willcox Walter Furlong Co. ..... 24.93c
Walker Goulard Plehn Inc. ..... 24.94c
Paper Corp. of U. S. ..... 22.17c
Whitaker Paper Co. ..... 27.72c
Old Dominion Paper Co. ..... 24.967c

### 100 Per Cent Declaration Bond

No. 140—10,000 lbs., Nos. 32 and 40; flat, cut 25½x33 ins. Min. order, one substance, 3,000 lbs.

Stanford Paper Co. ..... 26.10c
Whiting Paper Co. ..... 28.00c

### 100 Per Cent Parchment Deed

No. 141—10,000 lbs., No. 64; flat, cut 33x34 ins. Min. order, 2,000 lbs.

R. P. Andrews Paper Co. ..... 25.34c
Stanford Paper Co. ..... 25.00c

### Sulphite White Ledger

No. 151—800,000 lbs., No. 64; flat cut any size, min. width 17 ins., max. width 42 ins. Min. order, one substance, 10,000 lbs.

McIntosh Paper Co. .....
(400,000 lbs. only) 7.25c
Central Paper Co. ..... 8.10c
Mudge Paper Co. ..... 7.42c
R. P. Andrews Paper Co. ..... 7.14c
Stanford Paper Co. (400,000 lbs.) 7.25c
(balance) 8.60c
Butler Co. ..... 8.03c
Eastern Corp. ..... 7.61c
Chatfield & Woods Co. ..... 8.10c
Cauthorne Paper Co., Inc. ..... 7.76c
Bradner Smith & Co. ..... 6.885c
Barton, Duer & Koch Paper Co. .. 7.69c
Willcox Walter Furlong Co. ..... 7.00c
Virginia Paper Co. ..... 7.45c
Graham Paper Co. ..... 8.10c
Marquette Paper Corp. ..... 6.92c
Perkins Goodwin Co. ..... 7.84c
Whitaker Paper Co. ..... 6.82c
D. L. Ward Co. ..... 7.18c
Aetna Paper Co. ..... 7.77c

### 25 Per Cent Ledger, White and Colored

No. 154—150,000 lbs., white, Nos. 48 and 56; flat, cut 22x34, 24x38, 28x34, 32x42 and 34x44 ins. Min. order, one substance, 5,000 lbs.

Collins Mfg. Co. .....
(100,000 lbs. only) 12.15c
(50,000 lbs. only) 12.60c
Mudge Paper Co. ..... 12.56c
Bulkley Dunton & Co. ..... 12.96c
R. P. Andrews Paper Co. ..... 11.33c
Frank Parsons Paper Co. ..... 12.87c
Whiting Paper Co. ..... 14.00c
Chatfield & Woods Co. ..... 13.93c
Swigart Paper Co. ..... 13.17c
Walker Goulard Plehn Inc. ..... 12.48c
Paper Corp. of U. S. ..... 13.05c
Whitaker Paper Co. ..... 13.94c
Aetna Paper Co. ..... 12.90c

No. 155—100,000 lbs., white, No. 64; flat, cut 24x38, 28x34, 32x42 and 34x44 in. Min. order, 5,000 lbs.

Collins Mfg. Co. .....
(50,000 lbs. only) 12.15c
(50,000 lbs. only) 12.60c
Mudge Paper Co. ..... 12.56c
Bulkley Dunton & Co. ..... 12.96c
R. P. Andrews Paper Co. ..... 12.03c
Frank Parsons Paper Co. ..... 12.87c
Whiting Paper Co. (total tonnage 100,000 lbs., lots 106 or 155) .. 13.93c
Walker Goulard Plehn Co. ..... 12.48c
Paper Corp. of U. S. ..... 13.60c
Whitaker Paper Co. ..... 13.94c
Aetna Paper Co. ..... 12.90c

No. 156—70,000 lbs., blue, buff, green, pink, salmon and yellow, No. 64; flat, cut 24x38, 28x34, and 34x44 ins. Min. order, one substance, one color, 3,000 lbs.

Collins Mfg. Co. ..... 12.73c
Whiting Paper Co. ..... 15.50c
Graham Paper Co. ..... 15.61c
Walker Goulard Plehn Inc. ..... 14.48c
Paper Corp. of U. S. ..... 14.62c
Aetna Paper Co. ..... 14.46c

### 50 Per Cent Ledger, White and Colored

No. 160—50,000 lbs., white, Nos. 48 and 56; flat, cut 18½x36, 18½x40¼, 24x38, 28x29, 28x34, 29x41, and 32x42 ins. Min. order, one substance, 10,000 lbs.

Collins Mfg. Co. ..... 13.96c
Baxter Paper Co. ..... 13.05c
Mudge Paper Co. ..... 13.96c
R. P. Andrews Paper Co. ..... 14.96c
Frank Parsons Paper Co. ..... 14.90c
Whiting Paper Co. ..... 15.25c
Chatfield & Woods Co. ..... 16.80c
Barton, Duer & Koch Paper Co. .. 14.95c
Walker Goulard Plehn Inc. ..... 14.45c
Paper Corp. of U. S. ..... 14.27c
Whitaker Paper Co. ..... 14.94c
Aetna Paper Co. ..... 15.49c
Old Dominion Paper Co. (total tonnage 90,000 lbs., lots 160, 161, 162, 168, 169 and 170) ..... 15.749c

No. 161—40,000 lbs., white, No. 64; flat, cut 23x36 and 32x42 ins. Min. order, 10,000 lbs.

Collins Mfg. Co. ..... 13.96c

| | |
|---|---|
| Mudge Paper Co. | 14.16c |
| R. P. Andrews Paper Co. | 14.96c |
| Frank Parsons Paper Co. | 14.90c |
| Whiting Paper Co. | 15.25c |
| Chatfield & Woods Co. | 16.18c |
| Barton, Duer & Koch Paper Co. | 14.95c |
| Graham Paper Co. | 13.35c |
| Walker Goulard Plehn Inc. | 14.45c |
| Paper Corp. of U. S. | 14.27c |
| Whitaker Paper Co. | 14.94c |
| Aetna Paper Co. | 15.49c |
| Old Dominion Paper Co. | 15.749c |

No. 162—40,000 lbs., blue, buff, cherry, green, pink, salmon and yellow, Nos. 56 and 64, flat, cut 18½x36, 18½x40¼, 19x24, 23x36, 28x34 and 32x42 ins. Min. order, one substance, one color, 5,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. | 16.55c |
| Collins Mfg. Co. | 14.71c |
| Mudge Paper Co. | 15.16c |
| Whiting Paper Co. | 17.75c |
| Chatfield & Woods Co. | 17.10c |
| Barton, Duer & Koch Paper Co. | 16.40c |
| Walker Goulard Plehn Inc. | 16.48c |
| Paper Corp. of U. S. | 15.50c |
| Whitaker Paper Co. | 16.94c |
| Aetna Paper Co. | 16.24c |
| Old Dominion Paper Co. | 16.449c |

### 75 Per Cent Ledger, White and Colored

No. 168—24,000 lbs., white, Nos. 48 and 56; flat, cut 21x32, 24x38, 28x29, and 28x34 ins. Min. order, one substance, 4,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. | 20.36c |
| Mudge Paper Co. | 18.86c |
| Bulkley Dunton & Co. | 18.50c |
| R. P. Andrews Paper Co. | 21.43c |
| Frank Parsons Paper Co. | 19.00c |
| Whiting Paper Co. | 19.75c |
| Barton, Duer & Koch Paper Co. | 18.50c |
| Mathers-Lamm Paper Co. (80,000 lbs.) | 19.40c |
| Walker Goulard Plehn Inc. | 18.79c |
| Paper Corp. of U. S. | 18.97c |
| Whitaker Paper Co. | 19.98c |
| Old Dominion Paper Co. | 19.364c |

No. 169—40,000 lbs., white, No. 64; flat, cut 21x32, 23x36, 24x38, and 28x34 ins. Min. order, 5,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. | 20.36c |
| Mudge Paper Co. | 18.86c |
| Bulkley Dunton & Co. | 18.50c |
| R. P. Andrews Paper Co. | 21.43c |
| Frank Parsons Paper Co. | 19.00c |
| Whiting Paper Co. | 19.75c |
| Barton, Duer & Koch Paper Co. | 18.50c |
| Mathers-Lamm Paper Co. (80,000 lbs.) | 19.40c |
| Walker Goulard Plehn Inc. | 18.79c |
| Paper Corp. of U. S. | 18.97c |
| Whitaker Paper Co. | 19.98c |
| Old Dominion Paper Co. | 19.364c |

No. 170—18,000 lbs., blue, buff, cherry, green, pink, salmon and yellow. No. 64; flat, cut 24x38, 28x34, and 34x44 ins. Min. order, one substance, one color, 3,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. | 21.89c |
| Barton, Duer & Koch Paper Co. | 22.50c |
| Birmingham & Prosser Co. | 23.15c |
| Mathers-Lamm Paper Co. | 20.14c |
| Swigart Paper Co. | 23.15c |
| Walker Goulard Plehn Inc. | 20.79c |
| Paper Corp. of U. S. (5,000 lbs. one color) | 20.00c |
| Old Dominion Paper Co. | 20.098c |

### 100 Per Cent White Ledger

No. 176—50,000 lbs., No. 48; flat, cut 24x38, 28x34, and 32x42 ins. Min. order, 4,000 lbs.

| | |
|---|---|
| R. P. Andrews Paper Co. | 25.47c |
| Stanford Paper Co. | 25.40c |
| Frank Parsons Paper Co. | 23.95c |
| Whiting Paper Co. | 29.00c |
| Barton, Duer & Koch Paper Co. | 22.90c |
| Willcox Walter Furlong Co. | 25.80c |
| Graham Paper Co. | 24.90c |
| Walker Goulard Plehn Inc. | 23.97c |
| Paper Corp. of U. S. | 22.98c |
| Whitaker Paper Co. | 26.48c |

No. 177—10,000 lbs., No. 64; flat, cut 24x38, 28x34, and 32x42 ins. Min. order 5,000 lbs.

| | |
|---|---|
| Bulkley Dunton & Co. | 24.90c |
| R. P. Andrews Paper Co. | 25.47c |
| Stanford Paper Co. | 25.40c |
| Frank Parsons Paper Co. | 23.95c |
| Whiting Paper Co. | 29.00c |
| Barton, Duer & Koch Paper Co. | 22.90c |
| Willcox Walter Furlong Co. | 25.80c |
| Walker Goulard Plehn Inc. | 23.97c |
| Paper Corp. of U. S. | 22.98c |
| Whitaker Paper Co. | 26.48c |

### Sulphite White Index

No. 183—200,000 lbs., 22½x28½—148; flat, cut any size, min. width 17 ins., max. width 42 ins.

| | |
|---|---|
| McIntosh Paper Co. (1000,000 lbs. only) | 7.15c |
| Mudge Paper Co. | 7.97c |
| Bulkley Dunton Co. | 7.05c |
| R. P. Andrews Paper Co. | 6.42c |
| Stanford Paper Co. (100,000 lbs.) | 7.15c |
| Frank Parsons Paper Co. | 6.75c |
| Bradner Smith & Co. | 6.885c |
| Barton, Duer & Koch Paper Co. | 7.30c |
| Willcox, Walter Furlong Co. | 6.75c |
| Virginia Paper Co. | 7.18c |
| Marquette Paper Co. | 6.23c |
| Swigart Paper Co. | 7.47c |
| Perkins Goodwin Co. | 7.24c |
| Paper Corp. of U. S. | 7.03c |
| Whitaker Paper Co. | 6.57c |
| D. L. Ward Co. | 6.97c |
| Old Dominion Paper Co. | 7.2927c |

No. 184—1,000,000 lbs., 22½x28½—182 and 280, flat, cut 34½x44 ins., with projecting colored-paper marker between each 100 sheets. Min. order one weight, 10,000 lbs.

| | |
|---|---|
| Miamiasburg Paper Co. | 7.24c |
| McIntosh Paper Co. (500,000 lbs. only) | 7.15c |
| Mudge Paper Co. (400,000 lbs. only) | 7.49c |
| R. P. Andrews Paper Co. | 6.52c |
| Stanford Paper Co. (500,000 lbs. only) | 7.15c |
| Frank Parsons Paper Co. | 6.75c |
| Bradner Smith & Co. | 6.885c |
| Barton, Duer & Koch Paper Co. | 6.90c |
| Willcox Walter Furlong Co. | 6.75c |
| Virginia Paper Co. | 7.27c |
| Marquette Paper Co. | 6.23c |
| Perkins-Goodwin Co. | 7.24c |
| Paper Corp. of U. S. | 7.03c |
| Whitaker Paper Co. | 6.41c |
| D. L. Ward Co. | 6.97c |
| Old Dominion Paper Co. (182 lbs. basis) | 7.3818c |

### 50 Per Cent Index, White and Colored

No. 189—100,000 lbs., 22½x28½—148; flat, cut 24x38, 28x34, and 34½x44 ins., with projecting colored-paper marker between each 100 sheets. Min. order 10,000 lbs.

| | |
|---|---|
| Collins Mfg. Co. | 13.70c |
| Mudge Paper Co. | 14.72c |
| R. P. Andrews Paper Co. | 12.85c |
| Stanford Paper Co. | 15.00c |
| Butler Co. | 15.00c |
| Frank Parsons Paper Co. | 13.91c |
| Whiting Paper Co. | 16.00c |
| Chatfield & Woods Co. | 15.22c |
| Cauthorne Paper Co. Inc. | 13.73c |
| Barton, Duer & Koch Paper Co. | 13.08c |
| Walker Goulard Plehn Inc. | 13.26c |
| Paper Corp. of U. S. | 13.7[illegible] |
| Whitaker Paper Co. | 13.44c |
| Aetna Paper Co. | 12.96c |

No. 190—600,000 lbs., white, 22½x28½—182 and 280; flat, cut 24x38, 28x34, 32½x42, and 34½x44 ins., with projecting colored-paper marker between each 100 sheets. Min. order, one weight, 10,000 lbs.

| | |
|---|---|
| Collins Mfg. Co. (450,000 lbs. only) | 13.70c |
| Mudge Paper Co. | 14.72c |
| Bulkley Dunton Co. (100,000 lbs. maximum) | 15.00c |
| R. P. Andrews Paper Co. | 12.95c |
| Frank Parsons Paper Co. | 13.76c |
| Whiting Paper Co. | 16.00c |
| Barton, Duer & Koch Paper Co. (300,000 lbs. only) | 12.68c |
| (300,000 lbs. only) | 13.08c |
| Graham Paper Co. (182 lbs. basis) | 15.28c |
| (280 lbs. basis) | 16.12c |
| Walker Goulard Plehn Inc. | 13.46c |
| Paper Corp. of U. S. | 13.88c |
| Whitaker Paper Co. | 13.44c |
| Aetna Paper Co. (200,000 lbs. only) | 12.96c |

No. 191—200,000 lbs., blue, buff, cherry, fawn, green, pink, salmon and yellow, 22½x28½—182 and 280; flat, cut 24x38, 28x34, and 34½x44 ins., with projecting colored-paper marker between each 100 sheets. Min. order, one color, one weight, 5,000 lbs.

| | |
|---|---|
| Collins Mfg. Co. | 14.35c |
| Mudge Paper Co. | 15.47c |
| Barton, Duer & Koch Paper Co. | 13.68c |
| Graham Paper Co. | 17.04c |
| Walker Goulard Plehn Inc. | 14.66c |
| Paper Corp. of U. S. | 14.88c |
| Whitaker Paper Co. | 15.44c |

No. 192—100,000 lbs., blue, buff, cherry, fawn, green, pink, salmon and yellow, 22½x28½—148; flat, cut 24x38, 28x34 and 34½x44 ins., with projecting colored-paper marker between each 100 sheets. Min. order, one color, one weight, 5,000 lbs.

| | |
|---|---|
| Collins Mfg. Co. | 14.35c |
| Mudge Paper Co. | 15.47c |
| R. P. Andrews Paper Co. | 14.00c |
| Stanford Paper Co. | 15.00c |
| Butler Co. | 15.50c |
| Chatfield & Woods Co. | 15.50c |
| Barton, Duer & Koch Paper Co. | 13.68c |
| Graham Paper Co. | 15.88c |
| Walker Goulard Plehn Inc. | 14.46c |
| Paper Corp. of U. S. | 14.88c |
| Whitaker Paper Co. | 15.44c |
| Aetna Paper Co. | 12.99c |

### 100 Per Cent White Index

No. 195—30,000 lbs., 22½x28½—148; flat, cut 24x38, 28x34, and 32x42 ins.

| | |
|---|---|
| R. P. Andrews Paper Co. | 24.17c |
| Frank Parsons Paper Co. | 23.92c |
| Barton, Duer & Koch Paper Co. | 22.65c |
| Mathers-Lamm Paper Co. | 24.00c |
| Walker Goulard Plehn Inc. | 23.47c |
| Paper Corp. of U. S. | 24.47c |
| Whitaker Paper Co. | 24.98c |

No. 196—200,000 lbs., 22½x28½—approximately 206; flat, cut 20½x30½ and 34½x44.

| | |
|---|---|
| R. P. Andrews Paper Co. | 24.37c |
| Frank Parsons Paper Co. | 23.92c |
| Barton, Duer & Koch Paper Co. | 22.65c |
| Mathers-Lamm Paper Co. | 24.00c |
| Walker Goulard Plehn Inc. | 22.97c |
| Paper Corp. of U. S. | 25.25c |
| Whitaker Paper Co. (50,000 lbs. only) | 24.98c |

### Coated Cover, White and Colored

No. 201—100,000 lbs., white, 20x26—130; flat, 26½x41 ins., the grain to run lengthwise of the sheet. Min. order, 5,000 lbs.

| | |
|---|---|
| Minnesota Paper & Cordage Co. | 10.21c |
| Toby Fine Papers Inc. | 9.35c |
| Dill & Collins Inc. | 9.24c |
| Stanford Paper Co. | 8.47c |
| Butler Co. | 7.4432c |
| Bradner Smith & Co. | 9.35c |
| Barton, Duer & Koch Paper Co. | 9.15c |
| Willcox Walter Furlong Co. | 9.35c |
| Virginia Paper Co. | 9.10c |
| Marquette Paper Corp. | 7.41c |
| Chicago Paper Co. | 9.25c |
| Perkins Goodwin Co. | 8.44c |
| Whitaker Paper Co. | 8.50c |

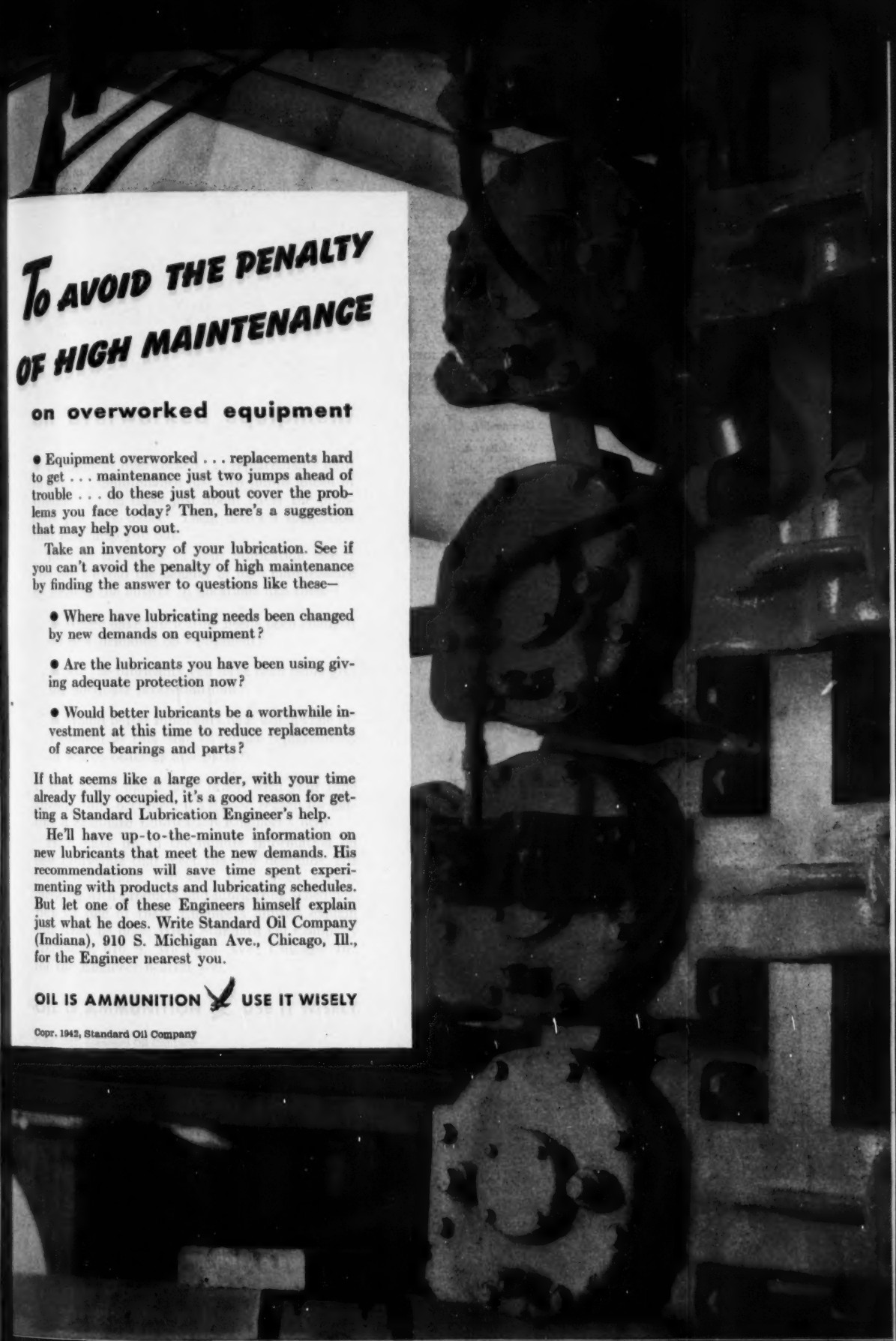
No. 202—90,000 lbs., India tint and light green, 20x26—100; flat, 26½x41 ins. Min. order, 5,000 lbs.

| | |
|---|---|
| Minnesota Paper & Cordage Co. | 10.61c |
| Tobey Fine Papers, Inc. | 9.75c |
| Dill & Collins, Inc. (India) | 9.60c |
| (green) | 9.85c |
| Seaman Paper Co. | 9.65c |
| Bulkley Dunton Co. | 8.45c |
| Stanford Paper Co. | 9.75c |
| Bradner Smith Co. | 9.75c |
| Barton, Duer & Koch Paper Co. | 9.45c |
| Willcox, Walter, Furlong Co. | 9.75c |
| Virginia Paper Co. | 9.40c |
| Marquette Paper Corp. | 7.82c |
| Perkins-Goodwin Co. | 8.84c |
| Whitaker Paper Co. | 8.94c |

### Antique-Finish, White and Colored

No. 203—800,000 lbs., antique; white, dawn, quaker drab, terra cotta, gray, brown, green, gobelin blue, granite, tea, and yellow; flat, 19½x25¼—95, with projecting colored-paper marker between each 500 sheets. Min. order, one color 5,000 lbs.

| | |
|---|---|
| Dill & Collins, Inc. | 7.98c |
| Central Ohio Paper Co. | 8.25c |
| R. P. Andrews Paper Co. | 7.97c |
| Stanford Paper Co. | 7.99c |
| Butler Co. | 8.21c |



# To avoid the penalty of high maintenance

## on overworked equipment

• Equipment overworked . . . replacements hard to get . . . maintenance just two jumps ahead of trouble . . . do these just about cover the problems you face today? Then, here's a suggestion that may help you out.

Take an inventory of your lubrication. See if you can't avoid the penalty of high maintenance by finding the answer to questions like these—

- Where have lubricating needs been changed by new demands on equipment?
- Are the lubricants you have been using giving adequate protection now?
- Would better lubricants be a worthwhile investment at this time to reduce replacements of scarce bearings and parts?

If that seems like a large order, with your time already fully occupied, it's a good reason for getting a Standard Lubrication Engineer's help.

He'll have up-to-the-minute information on new lubricants that meet the new demands. His recommendations will save time spent experimenting with products and lubricating schedules. But let one of these Engineers himself explain just what he does. Write Standard Oil Company (Indiana), 910 S. Michigan Ave., Chicago, Ill., for the Engineer nearest you.

**OIL IS AMMUNITION — USE IT WISELY**

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**TANDARD OIL COMPANY (INDIANA)**

..LUBRICATION ENGINEERING...LUBRICATION ENGINEERING...LUBRICAT

| | |
|---|---|
| Chatfield & Woods Co. | 8.25c |
| Cauthorne Paper Co., Inc. | 8.174c |
| Bradner Smith & Co. | 7.395c |
| Barton, Duer & Koch Paper Co. | 8.79c |
| Graham Paper Co. | 8.20c |
| Marquette Paper Corp. | 7.43c |
| Walker Goulard Plehn, Inc. (100,000 lbs. only) | 8.25c |
| Perkins-Goodwin Co. (100,000 lbs. only) | 8.21c |
| Whitaker Paper Co. | 6.94c |
| Old Dominion Paper Co. | 8.2294c |

### 50 Per Cent Laid Cover, Colored

No. 205—150,000 lbs., blue, cream, white gray and green, 20x26—130; flat, cut 19½x25¼ ins., in wrapped bundles with projecting colored-paper marker between each 500 sheets. Min. order, one color, 2,000 lbs.

| | |
|---|---|
| Dill & Collins, Inc. | 11.72c |
| R. P. Andrews Paper Co. | 11.67c |
| Bradner Smith & Co. | 10.88c |
| Graham Paper Co. | 12.62c |
| Whitaker Paper Co. | 11.23c |

### Wood Manila

No. 208—200,000 lbs., 24x36—80 and 100; flat, cut 25x38 and 32x42 ins., in wrapped bundles with projecting colored-paper marker between each 500 sheets.

| | |
|---|---|
| Combined Lots Paper Co. | 4.945c |
| National Pulp & Paper Co., Inc. (cl. lots) | 4.65c |
| Birmingham & Prosser Co. | 4.85c |
| Marquette Paper Corp. | 4.85c |
| Paper Corp. of U. S. | 4.96c |
| Whitaker Paper Co. (cl. lots) | 4.95c |
| Old Dominion Paper Co. | 4.984c |

No. 209—200,000 lbs., 24x36—80 and 100; rolls, 21 and 36 ins. wide (3-inch fiber cores).

| | |
|---|---|
| Combined Lots Paper Co. | 4.445c |
| Birmingham & Prosser Co. | 4.45c |
| Marquette Paper Co. | 4.47c |
| Paper Corp. of U. S. | 4.56c |
| Bulkley Dunton & Co. | 4.25c |
| Whitaker Paper Co. (cl. lots) | 4.55c |
| Old Dominion Paper Co. | 4.4844c |

No. 210—200,000 lbs., 24x36—120; rolls, 18-ins. diameter, 4¾, 5¾, and 7½ ins. wide, wound on wooden plugs, 1½-in. hole.

| | |
|---|---|
| Combined Lots Paper Co. | 5.375c |
| Birmingham & Prosser Co. | 4.85c |
| Whitaker Paper Co. (cl. lots) | 4.55c |
| Old Dominion Paper Co. | 4.8839c |

### Chemical Wood Manila

No. 211—60,000 lbs., 24x36—140 and 160; flat, cut any size in wrapped bundles. Min. order, one weight, 5,000 lbs.

| | |
|---|---|
| R. P. Andrews Paper Co. | 7.65c |
| Paper Corp. of U. S. | 7.52c |

### Rope Manila

No. 213—60,000 lbs., 24x36—160 and 280; rolls, 48 ins. wide (3-inch fiber cores). Min. order, 5,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. (5,000 lb. lots) | 39.333c |
| (15,000 to 36,000 lbs.) | 31.1115c |
| (36,000 lbs. or over) | 30.5032c |
| R. P. Andrews Paper Co. (SUB. 160) | 19.50c |
| (SUB. 280) | 18.50c |
| Paper Corp. of U. S. | 20.25c |
| Cromwell Paper Co. | 12.50c |

### Drumhead Manila

No. 215—40,000 lbs., 24x36—280; flat, cut 32x42 ins. Min. order, 5,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 20.50c |
| Paper Corp. of U. S. | 22.50c |

### No. 2 Kraft

No. 217—600,000 lbs., 24x36—80 to 160, flat, cut any size in wrapped bundles.

| | |
|---|---|
| Price & Pierce, Ltd. | 4.70c |
| R. P. Andrews Paper Co. | 4.79c |

No. 218—500,000 lbs., 24x36—80 to 160; cut any size, folded (25 sheets per fold), in wrapped bundles.

| | |
|---|---|
| W. L. Jones, Inc. | 4.90c |
| R. P. Andrews Paper Co. | 4.79c |

No. 219—500,000 lbs., 24x36—80 to 160, rolls, minimum width 9 ins., maximum width 48 ins., wound on wooden plugs, 1½-inch hole, or on 3-inch fiber cores as may be specified.

| | |
|---|---|
| Price & Pierce, Ltd. (100,000 lbs. only) | 5.05c |
| W. L. Jones, Inc. | 4.655c |
| R. P. Andrews Paper Co. | 4.54c |
| Whitaker Paper Co. | 4.63c |

### White Gummed

No. 252—1,000,000 sheets, flat, 22x34 ins. Min. order, 25,000 sheets.

| | |
|---|---|
| Tobey Fine Papers, Inc. per M sheets | $12.60 |
| Nashua Gummed & Coated Paper Co. | 14.20 |
| George W. Millar & Co. | 12.38 |
| Mudge Paper Co. | 12.265 |
| (min. cl. 36,000 lbs.) | 12.222 |
| R. P. Andrews Paper Co. | 12.62 |
| Butler Co. | 10.88 |
| Chatfield & Woods Co. | 13.99 |
| Bradner Smith & Co. | 12.38 |
| Carpenter Paper Co. | 14.323 |
| Barton, Duer & Koch Paper Co. | 14.15 |
| Eureka Specialty Prtg. Co. | 12.82 |
| Virginia Paper Co. | 10.92 |
| Birmingham & Prosser Co. | 14.30 |
| Graham Paper Co. | 10.90 |
| Wigart Paper Co. | 10.92 |
| Millcraft Paper Co. | 12.36 |
| (36 lb. basis) | 11.64 |
| Paper Corp. of U. S. | 11.38 |
| Whitaker Paper Co. | 13.87 |
| Old Dominion Paper Co. | 10.8648 |

### 25 Per Cent Blotting, White and Colored

No. 254—80,000 lbs., white, flat, 19x24—160, in wrapped bundles. Min. order, 10,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 7.98c |
| R. P. Andrews Paper Co. | 7.67c |
| Stanford Paper Co. | 7.24c |
| Butler Co. | 7.192c |
| Cauthorne Paper Co. Inc. | 7.98c |
| Bradner Smith & Co. | 7.227c |
| Barton, Duer & Koch Paper Co. | 7.30c |
| Virginia Paper Co. | 7.98c |
| Graham Paper Co. | 7.23c |
| Marquette Paper Corp. | 7.72c |
| Millcraft Paper Co. | 7.97c |
| Whitaker Paper Co. | 7.04c |
| Old Dominion Paper Co. | 7.969c |

No. 255—400,000 lbs., buff, salmon and moss green, flat, 19x24—160, in wrapped bundles. Min. order, one color, 2,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 8.44c |
| R. P. Andrews Paper Co. | 7.96c |
| Stanford Paper Co. (cases) | 7.44c |
| (buff) | 7.36c |
| (moss green) | 7.79c |
| Butler Co. (salmon) | 7.43c |
| (buff) | 7.35c |
| (cases) | 7.78c |
| Cauthorne Paper Co., Inc. | 8.48c |
| Bradner Smith & Co. (skide) | 7.425c |
| (salmon) | 7.3458c |
| (buff) | 7.80c |
| Barton, Duer & Koch Paper Co. (buff) | 7.50c |
| (salmon) | 7.42c |
| (60,000 lbs. only) | 7.88c |
| Virginia Paper Co. | 8.39c |
| Graham Paper Co. (buff) | 7.42c |
| (salmon) | 7.35c |
| (green) | 7.79c |
| Marquette Paper Co. (20,000 lbs. only) | 7.35c |
| Millcraft Paper Co. | 8.47c |
| Whitaker Paper Co. | 7.04c |
| Old Dominion Paper Co. | 8.464c |

### High-Finish Red Sulphite

No. 265—30,000 lbs., flat, 24x36—320, in wrapped bundles. Min. order, 5,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 8.25c |
| Marquette Paper Corp. | 8.00c |
| Walker Goulard Plehn Co. | 7.97c |
| Paper Corp. of U. S. | 7.74c |

### High-Finish Sulphite Manila Tag

No. 271—250,000 lbs., 24x36—280; flat, cut any size, min. width 24 ins., max. width 38 ins., in wrapped bundles.

| | |
|---|---|
| Price & Pierce Ltd. | 7.00c |
| R. P. Andrews Paper Co. | 7.25c |
| Walker Goulard Plehn Inc. | 6.97c |
| Paper Corp. of U. S. | 6.00c |
| Whitaker Paper Co. | 6.25c |

### Calendered Tag, Manila and Colored

No. 276—1,500,000 lbs., manila, 22½x28½—150; rolls, 23¼ and 26½ ins. wide (6-inch iron cores).

| | |
|---|---|
| Barton, Duer & Koch Paper Co. | 8.25c |

No. 277—120,000 lbs., blue, brown, green, ivory, pink, red, salmon and yellow, 22½x28½—150; rolls 23¼ and 26½ ins. wide (6-inch iron cores). Min. order, one color, 10,000 lbs.

| | |
|---|---|
| Barton, Duer & Koch Paper Co. | 9.25c |

### Jute Tag

No. 280—250,000 lbs., 22½x28½—200 and 280; flat, cut 28x38 ins., in wrapped bundles. Min. order, one weight, 10,000 lbs.

| | |
|---|---|
| Mudge Paper Co. | 10.75c |
| Walker Goulard Plehn, Inc. | 10.89c |
| Paper Corp. of U. S. | 10.37c |
| Old Dominion Paper Co. | 10.973c |

### Manila Board

No. 281—100,000 lbs., 22½x28½—400; flat, cut, 22x34 ins., in wrapped bundles with projecting colored-paper marker between each 100 sheets. Min. order, 10,000 lbs.

| | |
|---|---|
| Resolute Paper Prods. Corp. | 6.6175c |
| George W. Millar & Co. | 6.0625c |
| (cl. lots only) | 5.45c |
| R. P. Andrews Paper Co. | 5.37c |
| Bradner Smith & Co. | 5.355c |
| Barton, Duer & Koch Paper Co. | 5.08c |
| Paper Corp. of U. S. | 4.50c |
| Whitaker Paper Co. | 5.45c |
| Old Dominion Paper Co. | 5.998c |

### Railroad Board, White and Colored

No. 302—100,000 sheets, white, flat, 22x34 ins., 4-ply, each 100 sheets fully banded, packed in wooden cases. Min. order, 10,000 sheets.

| | |
|---|---|
| Bulkley Dunton & Co. (Cases) per M sheets | $34.40 |
| (skids) | 33.40 |
| R. P. Andrews Paper Co. (skids) | 33.23 |
| Stanford Paper Co. | 26.50 |
| Bradner Smith & Co. (cases) | 34.00 |
| (skids) | 33.00 |
| Barton, Duer & Koch Paper Co. | 33.00 |
| Virginia Paper Co. (60,000 lbs. only) | 33.05 |
| Walker Goulard Plehn Inc. | 32.59 |
| Paper Corp. of U. S. | 32.94 |
| Whitaker Paper Co. (cases) | 35.47 |
| (skids) | 34.49 |
| Old Dominion Paper Co. | 23.988 |

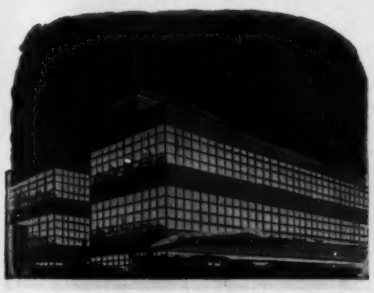
No. 303—150,000 sheets, white, flat, 22x34 ins., 8-ply, each 100 sheets fully banded, packed in wooden cases. Min. order, 5,000 sheets.

| | |
|---|---|
| Bulkley Dunton & Co. (cases) per M sheets | $49.50 |
| (skids) | 47.95 |
| R. P. Andrews Paper Co. (skids) | 47.69 |
| Stanford Paper Co. | 38.20 |
| Bradner Smith & Co. (cases) | 48.95 |
| (min. cl. 36,000 lbs.) | 47.40 |
| Barton, Duer & Koch Paper Co. | 47.38 |
| Virginia Paper Co. (100,000 lbs.) | 47.55 |
| Walker Goulard Plehn, Inc. | 47.05 |
| Paper Corp. of U. S. | 47.43 |
| Whitaker Paper Co. (cases) | 51.04 |
| (skids) | 49.50 |
| Old Dominion Paper Co. | 47.448 |

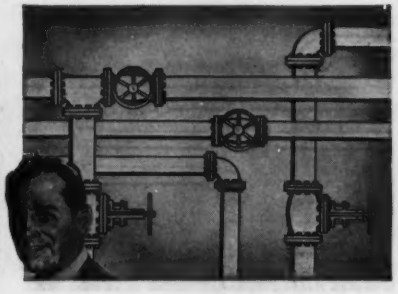
No. 304—60,000 sheets, white, flat, 22x34 ins., 14-ply, each 50 sheets fully banded, packed in wooden cases. Min. order, 5,000 sheets.

| | |
|---|---|
| Bulkley Dunton & Co. (cases) per M sheets | $68.80 |
| (skids) | 66.65 |
| R. P. Andrews Paper Co. (skids) | 66.32 |
| Stanford Paper Co. | 53.80 |
| Bradner Smith & Co. (cases) | 68.05 |
| (skids) | 65.90 |
| Barton, Duer & Koch Paper Co. | 65.90 |

# These "Pointers" Made a Tough Training Job Easier!



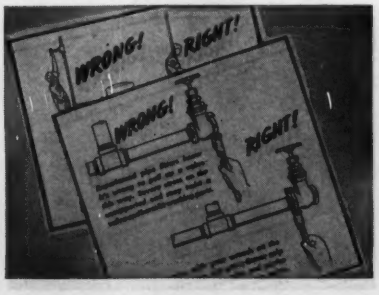
**1** With the plant running 168 hours a week, we needed more and better maintenance—day and night. On piping, for example, you can't get away with part-time maintenance and keep production lines running smoothly. It's too important!



**2** Soon enough, we found valves and fittings would have to be handled with unusual care to get every last bit of service out of them. They're vital equipment, and with all the demands of war, deliveries of replacements were being slowed up.

**3** Sure, we put on more "maintenance" men, but many had never handled a wrench before. We had to start from scratch in training them. In the past, our veteran crews had the time to teach apprentices, but that was "before Pearl Harbor."

**4** You know that piping maintenance is a specialized job. But it's knowing the "kinks" of the trade that makes the difference between good and bad installations. They help speed-up the work as well as step-up efficiency of pipe lines.




**5** We had to teach these men the "rights and wrongs" of piping make-up. We had to be sure they knew enough about valves of all types, and when and where to use them. Good piping depends a lot on using the right equipment.

**6** These Crane Shop Bulletins made a tough training job easier. They're full of valuable piping pointers. We used them in employee training classes; posted them in maintenance shops; passed them among the men. Even the old-timers use them! **And listen, any plant can get these Bulletins free—through the local Crane Representative.**

# CRANE

CRANE CO., GENERAL OFFICES:
836 SOUTH MICHIGAN AVENUE, CHICAGO

*VALVES • FITTINGS • PIPE*
*PLUMBING • HEATING • PUMPS*

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS

| | |
|---|---|
| Virginia Paper Co. (40,000 lbs. only) | 69.85 |
| Walker Goulard Plehn Inc. | 69.14 |
| Paper Corp. of U. S. | 69.69 |
| Old Dominion Paper Co. | 66.579 |

No. 305—100,000 sheets, ash gray, green and orange, flat 22x34 ins., 4-ply, each 100 sheets fully banded, packed in wooden cases. Min. order, one color, 5,000 sheets.

| | |
|---|---|
| Bulkley Dunton & Co. (cases) per M sheets | $43.10 |
| (skids) | 41.75 |
| R. P. Andrews Paper Co. (skids) | 41.53 |
| Stanford Paper Co. | 33.50 |
| Bradner Smith & Co. (cases) | 42.60 |
| (skids) | 41.30 |
| Barton, Duer & Koch Paper Co. | 41.25 |
| Virginia Paper Co. (80,000 lbs.) | 41.37 |
| Walker Goulard Plehn, Inc. | 40.94 |
| Paper Corp. of U. S. | 41.26 |
| Old Dominion Paper Co. | 41.318 |

### Wood Bristol, Colored

No. 306—250,000 lbs., buff 22½x28½—150; rolls, 20 ins. wide (6-inch iron cores).

| | |
|---|---|
| Mudge Paper Co. | 5.25c |
| Frank Parsons Paper Co. | 5.2905c |
| Barton, Duer & Koch Paper Co. | 5.25c |
| Old Dominion Paper Co. | 5.094c |

No. 307—200,000 lbs., melon, flat, 20x30—172; in wrapped bundles with projecting colored-paper marker between each 100 sheets.

| | |
|---|---|
| Alfred J. Schrafel | 6.60c |
| Thos. Barrett & Sons | 6.59c |
| Mudge Paper Co. | 5.40c |
| Bulkley Dunton & Co. | 6.65c |
| R. P. Andrews Paper Co. | 6.56c |
| Frank Parsons Paper Co. | 5.5407c |
| Barton, Duer & Koch Paper Co. | 5.35c |
| Graham Paper Co. | 6.60c |
| Whitaker Paper Co. | 6.65c |
| Old Dominion Paper Co. | 5.734c |

No. 308—200,000 lbs., buff, gray, green, melon, pink and yellow, 22½x28½—184; rolls, 20 ins. wide (6-inch iron cores).

| | |
|---|---|
| Alfred J. Schrafel | 6.35c |
| Thos. Barrett & Sons | 6.35c |
| Mudge Paper Co. | 5.25c |
| Bulkley Dunton & Co. | 6.40c |
| R. P. Andrews Paper Co. | 6.30c |
| Frank Parsons Paper Co. | 2.2905c |
| Barton, Duer & Koch Paper Co. | 5.25c |
| Graham Paper Co. | 6.35c |
| Whitaker Paper Co. | 6.40c |
| Old Dominion Paper Co. | 5.2434c |

No. 309—200,000 lbs., buff, gray, green, melon, pink and yellow, 22½x28½—184; rolls, 20 ins. wide (6-inch iron cores).

| | |
|---|---|
| Alfred J. Schrafel | 6.35c |
| Thos. Barrett & Sons | 6.35c |
| Mudge Paper Co. | 5.25c |
| Bulkley Dunton & Co. | 6.30c |
| Frank Parsons Paper Co. | 5.2905c |
| Parton, Duer & Koch Paper Co. | 5.25c |
| Graham Paper Co. | 6.35c |
| Whitaker Paper Co. | 6.40c |
| Old Dominion Paper Co. | 5.2434c |

### United States Postal Card Bristol

No. 325—3,000,000 lbs., 22½x28½—188; rolls, 22 and 33 ins. wide and 36 ins. in diameter (6-inch iron cores).

| | |
|---|---|
| St. Regis Paper Co. | 5.60c |
| R. P. Andrews Paper Co. | 5.44c |
| Barton, Duer & Koch Paper Co. (1,000,000 lbs. only) | 5.52c |
| Birmingham & Prosser Co. | 6.10c |
| Whitaker Paper Co. | 5.47c |

No. 326—3,000,000 lbs., 22½x28½—188; rolls, 22 and 33 ins. wide and 36 ins. in diameter (6-inch iron cores).

| | |
|---|---|
| St. Regis Paper Co. | 5.60c |
| R. P. Andrews Paper Co. | 5.44c |
| Barton, Duer & Koch Paper Co. (1,000,000 lbs. only) | 5.42c |
| Birmingham & Prosser Co. | 6.10c |
| Whitaker Paper Co. | 5.47c |

No. 327—3,000,000 lbs., 22½x28½—188; rolls, 22 and 33 ins. wide and 36 ins. in diameter (6-inch iron cores).

| | |
|---|---|
| St. Regis Paper Co. | 5.60c |
| R. P. Andrews Paper Co. | 5.44c |
| Barton, Duer & Koch Paper Co. | 5.62c |
| Birmingham & Prosser Co. | 6.10c |
| Whitaker Paper Co. | 5.47c |

### Pressboard, Colored

No. 351—40,000 sheets, red, flat, 24x32 ins., thickness .0140 inch. Min. order, 5,000 sheets.

| | |
|---|---|
| Resolute Paper Products Corp. per C Sheets | $7.8832 |
| Barton, Duer & Koch Paper Co. | 7.75 |
| Mathers-Lamm Paper Co. | 7.75 |
| Walker Goulard Plehn, Inc. | 7.80 |
| Whitaker Paper Co. | 7.59 |
| Old Dominion Paper Co. (cents per pound) | 7.737c |

No. 352—40,000 sheets, gray, flat, 30x36 ins., thickness .0300 inch. Min. order, 5,000 sheets.

| | |
|---|---|
| Resolute Paper Products Corp. per C Sheets | $24.2008 |
| (order in 20,000 sheets or more) | 23.8445 |
| Barton, Duer & Koch Paper Co. | 18.85 |
| Mathers-Lamm Paper Co. | 23.58 |
| Walker Goulard Plehn Inc. | 23.92 |
| Whitaker Paper Co. | 23.27 |

### News Board

No. 360—1,500,000 lbs., 26x38 ins., No. 100, flat, cut any size, min. 21x32 ins., max. 40x52½ ins. (to be trimmed square on four sides).

| | |
|---|---|
| Resolute Paper Products Corp. | 2.44925c |
| New Haven Pulp Board Co. | 2.575c |
| Continental Paper Co. (Min. shipment 36,000 lbs.) | 2.30c |
| Bartgis Bros. Co. | 2.50c |
| Mudge Paper Co. | 2.106c |
| R. P. Andrews Paper Co. | 2.11c |
| Stanford Paper Co. | 4.278c |
| Downingtown Paper Co. (skids) | 2.49c |
| Cauthorne Paper Co., Inc. | 2.72c |
| Barton, Duer & Koch Paper Co. | 2.10c |
| Virginia Paper Co. | 2.086c |
| Mathers-Lamm Paper Co. | 2.468c |
| Walker Goulard Plehn, Inc. | 2.376c |
| Whitaker Paper Co. | 2.084c |
| Old Dominion Paper Co. | 2.3132c |

### Binder's Board, No. 1 Quality

No. 366—900,000 lbs., flat, to trim 25x30 ins., Nos. 16, 18, 20, 25, 30 and 40.

| | |
|---|---|
| Consolidated Paper Co. | 4.375c |
| R. P. Andrews Paper Co. | 4.14c |
| Barton, Duer & Koch Paper Co. | 4.225c |
| Mathers-Lamm Paper Co. | 4.035c |

No. 367—180,000 lbs., 25¾x30¾ ins., Nos. 12 and 20; flat, to trim 34x44 ins.

| | |
|---|---|
| Consolidated Paper Co. | 4.375c |
| R. P. Andrews Paper Co. | 4.14c |
| Barton, Duer & Koch Paper Co. | 4.225c |

### Binder's Board, Best Quality

No. 368—200,000 lbs., flat, to trim 20x30 ins., and 22x28 ins., Nos. 18, 20, 25, 30, 35, 40 and 45. Min. order, 5,000 lbs.

| | |
|---|---|
| Consolidated Paper Co. | 5.375c |
| R. P. Andrews Paper Co. | 5.639c |
| Barton, Duer & Koch Paper Co. | 5.25c |

## Johns-Manville on War Production

Lewis H. Brown, president of the Johns-Manville Corporation, told stockholders at their annual meeting that Government tax proposals and policies were such that all corporations will be obliged to reduce dividend rates, sooner or later. He estimated that the corporation's income taxes this year would be around $15,000,000, against $11,500,000 last year, but gave no hint as to what action the company's board might take at their dividend meeting later this month.

He estimated that about 80% of the company's production at present is essential to the war effort, with about 70% being on priorities of A-10 or better, and that the total volume of business this year would be substantially above last year.

As an instance of what the company is doing, he said that a Southern plant built to produce insulating board from loblolly pine at the rate of 90,000,000 square feet annually was actually producing at a rate of 130,000,000 square feet annually, and was thirty to ninety days behind on deliveries.

The stockholders approved a proposal to retire 25,000 shares of 7% preferred stock, which was redeemed on October 1, 1941, leaving 25,000 shares outstanding. As a result, capital represented by preferred stock was reduced to $3,000,000 from $6,000,000.

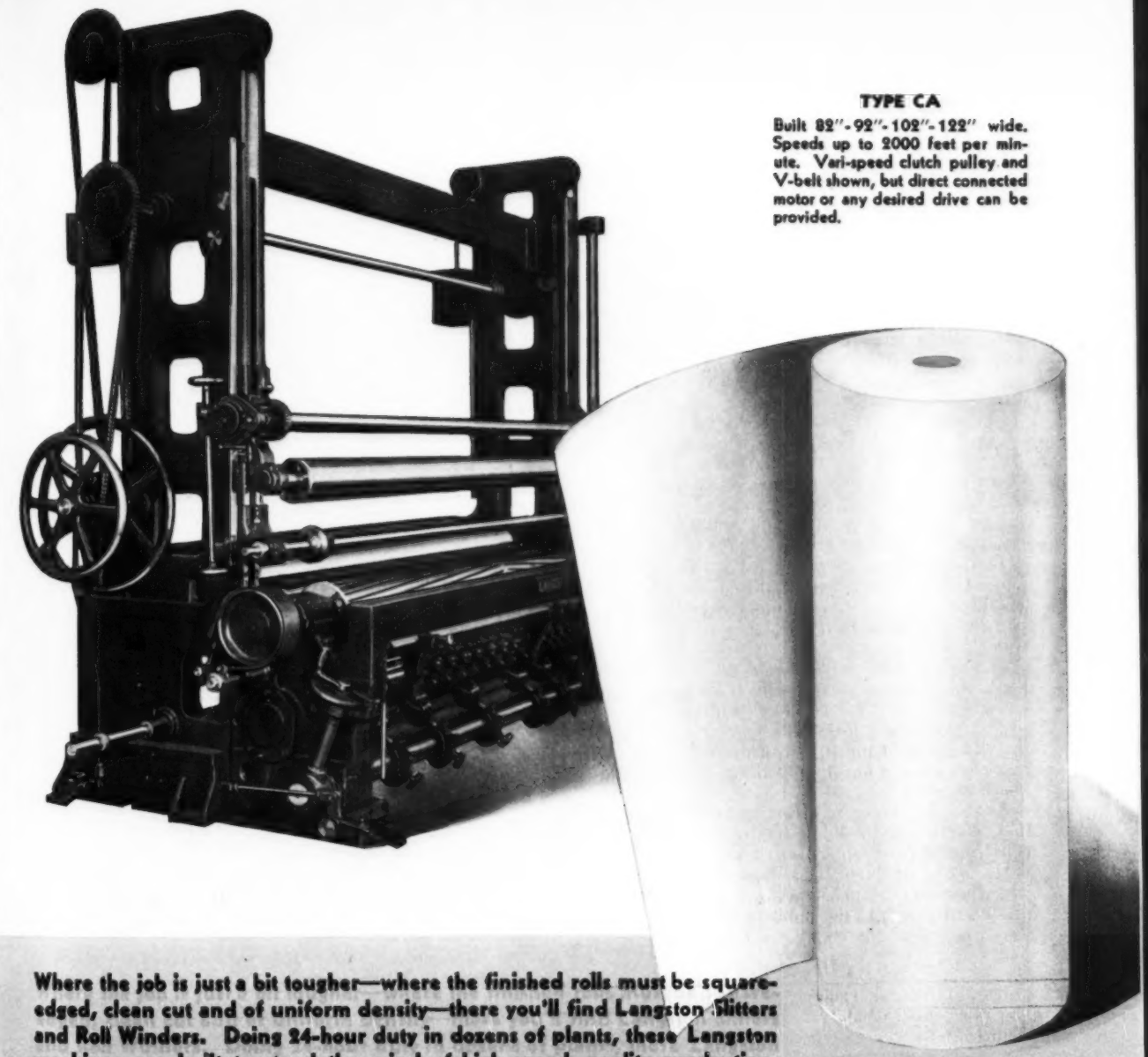
## Frank E. Holbrook Retires

DAYTON, Ohio, May 25, 1942—Retirement on July 1 of Frank E. Holbrook, 1202 Rubicon rd., as manager of the Oxford Miami Paper Company mill at West Carrollton and the appointment of Don C. Appleton, who has been assistant manager, as his successor has been announced.

Mr. Holbrook will continue as a director of the Oxford Paper Company, New York, which owns the West Carrollton mill and also will act in an advisory capacity. Mr. Appleton has been assistant manager at the mill for the last five years.

The retirement of Mr. Holbrook marks the end of 45 years of activity in the paper industry. He began his business career with the Kimberly Clark Corporation, Appleton, Wis., and in 1900 went with the Great Northern Paper Company, and Madison, Me. He later was named manager of that company's mill at Millinockett, Me., which is the largest newsprint mill in the United States.

In 1909 Mr. Holbrook became associated with the International Paper Company as assistant manager in charge of manufacturing. In 1921 he was chosen general manager of the Combined Locks Paper Company of Appleton and remained in that position until he came to the West Carrollton company in 1929.



**TYPE CA**

**Built 82"-92"-102"-122" wide. Speeds up to 2000 feet per minute. Vari-speed clutch pulley and V-belt shown, but direct connected motor or any desired drive can be provided.**

**Where the job is just a bit tougher—where the finished rolls must be square-edged, clean cut and of uniform density—there you'll find Langston Slitters and Roll Winders. Doing 24-hour duty in dozens of plants, these Langston machines are built to stand the grind of high-speed, quality production. For every grade of paper, for wide or narrow cuts, small or large diameters, there is a type and size to meet your needs.**

*★ ★ rolls well-wound, of compact weight travel better and save on freight ★ ★*

**SAMUEL M. LANGSTON COMPANY**
**CAMDEN, NEW JERSEY**

# *Langston*
# SLITTERS & ROLL WINDERS

# No Shortage of Newsprint Paper in Canada

## Minister of Munitions and Supply Tells House of Commons Some Newsprint Mills Are Operating At Less Than Capacity — Salvage of Paper Considered Necessary — Advertising Cut Is Suggested.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 25, 1942—The Hon. C. D. Howe, Minister of Munitions and Supply, told the House of Commons a day or two ago that there is no shortage of newsprint in Canada and that some newsprint plants are working at less than capacity. He made this statement in reply to a member who referred to the intensive paper salvage campaign in Canada and asked why newspapers were not reduced in size and export of paper restricted.

Mr. Howe said the salvage campaign was necessary and valuable because the pulp made from salvaged paper took the place of fresh wood pulp necessary for packing ammunition, thus saving waste of a valuable resource and saving labor and milling operations to produce the fresh pulp.

In raising the matter Col. Brooks said he had not noticed any curtailment in the size of newspapers. Week-end editions were coming out with "40 or 50 pages" where, in wartime, five or six would be enough.

He asked why exports should be permitted if there was a shortage and why the Chicago Tribune could get from Canada the newsprint to publish a paper "that never loses an opportunity to disparage the war effort of the British Empire."

Mr. Howe did not discuss the export aspect of the question.

Angus MacInnis of Vancouver East, suggested that advertising should be restricted as a means of conserving expert labor as well as paper.

He spoke of high class, smooth paper magazine advertisements of rubber by firms that had no rubber products for sale to the public. Such advertisements were a waste of space and effort, he said.

### Postmasters Urged to Save Paper

The Postmaster General of Canada has sent instructions to Canada's 12,500 postmasters urging them to cut down unessential consumption of paper and to salvage waste paper in post offices.

The instructions, exemplifying the move for conservation of paper supplies, are printed on slips of cheap paper four inches by four and a half. The slip reads:

"Mr. Postmaster: Think what it would mean if supplies of paper and other materials used in the postal service were not readily available.

"Yet that is the prospect which confronts every postal worker unless conservation and salvage are practised to the fullest extent.

"Conserve these supplies and send all surplus stock of any article to this branch for salvage."

## St. Regis Makes Wage Agreement

OSWEGO, N. Y., May 25, 1942—An agreement has been reached between officials and employees of the St. Regis Paper Company under which an increase of four cents an hour in wages is granted. The agreement was reached at a conference held here last week and about 2,500 employees in the various plants of the company will be affected. The employees of the machine shop division at Oswego are not covered by the agreement, however, as they plan to conduct negotiations at a meeting to be held here next week. The employees of the Oswego Taggart Corporation, affected by the wage increase, include members of the International Brotherhood of Papermakers, International Association of Electrical Workers, and two locals of the International Brotherhood of Pulp & Sulphite Workers. An official of the St. Regis concern stated that it was one of the shortest and most harmonious wage negotiations that has been held in several years and is binding on the entire 100 per cent of employees. The increase runs straight through the payroll and affects girls and women as well as men. It results in a 65 cents per hour minimum rate for labor and the base is an eight-hour day and a week of forty hours. The four cents, added to the total of eight cents granted last year, makes a total of twelve cents for the past two years.

## Jeffrey Mfg. Co. Gets Navy "E"

COLUMBUS, Ohio, May 25, 1942—The Jeffrey Manufacturing Company was presented with the Navy "E" with appropriate ceremonies held at the plant of the company, Tuesday evening, May 12. Everyone connected with the company at Columbus feels highly honored in receiving this coveted award from the Navy for work well done and being permitted to wear the Navy "E" button. It is said that the company is the first of the war workers in Columbus to attain this signal honor.

The program of presentation was as follows:—Master of ceremonies and chairman, Lieutenant Governor Paul M. Herbert, "Significance of Navy 'E' Award"; Address, Honorable John W. Bricker, Governor; Presentation of Navy "E" burgee, Captain Robert Henderson, USN. (Ret.); Acceptance speech, Robert W. Gillispie, president, Jeffrey Manufacturing Company; Presentation of Navy "E" insignia, Commander G. H. Bowman, USN. (Ret.); Acceptance for the employees, O. R. "Dick" Ehret (63 years service); Response, H. W. DeBruin, vice president in charge of manufacture. The program was broadcast over station WBNS.

## History of Papermaking

Because of the unprecedented demand for "250 Years of Papermaking in America," the Lockwood Trade Journal Company has made provision for additional copies of this work. Copies are now on sale at $3.50 per copy, delivery charges prepaid. Orders should be sent to the Lockwood Trade Journal Company, 15 W. 47th street, New York.

## Michigan Superintendents Meet

KALAMAZOO, Mich., May 22, 1942—The last meeting of the fiscal year of the Michigan Division of the American Pulp and Paper Mill Superintendent's Association was held at the Park American Hotel, Thursday evening the 21. Following dinner chairman Neudorf appointed a nominating committee for selection of new officers, consisting of Arnold Weller chairman, Lester H. LeLiberte and Arthur W. Cole.

The speaker was Major Edward Chayse of the Quartermaster Corps from nearby Fort Custer. The Major is an attorney in civil life and the address he delivered was thoroughly enjoyed and appreciated by his audience. Bits of humor, facts, and much interesting information, sold him 100 per cent with the crowd. At the close he was heartily applauded.

Miss Austin, who is in charge of the Art Department of the Public Library, showed three films, "The Bombing of the Marshall Islands," "Russia Stops Hitler" and "The Ack-Ack Gun" which met with popular approval.

Among those present were W. H. Astle, Michigan Paper Company; Ralph Atkins, Lee Paper Company; Miss Austin, Art Dept. Public Library; J. R. Aitken, Hercules Powder Company; Ray L. Barton, Michigan Paper Company; Robert Buss, Hercules Powder Company; Barney Benson, Williams Gray Company; Major Edward Chayes, Fort Custer; A. W. Cole, Rex Paper Company; M. D. Fogerty, Michigan Paper Company; C. E. Gardner, Lee Paper Company; A. E. Hayes, Michigan Paper Company; Hod Heath, Rex Paper Company; Fred Hodgemire, Hawthorne Company; Carl F. Holderle, Anheuser-Busch Company; Don Klitzen, Saniwax Paper Company; Lester H. LeLiberte, K.V.P.; J. W. McClaren, Nat'l Starch Products Company; R. R. Milroy, E. M. Sergeant Company; W. H. Monsson, Hooker Electro Chemical Company; G. L. Moore, Lee Paper Company; Heine Neudorf, Rex Paper Company; Gordon B. Robb, Geo. H. Rice, K.V.P.; Hubert H. Smith, A. L. Sherwood and Glen Sutton, Sutherland Company; James R. Verdon, American Cynamid Corporation; J. C. Widmeyer, Allied Paper Company; Arnold Weller, Sutherland Company; Fred B. Wells and Joe Waber, Rex Paper Company.

## Shows Strategic Position of Paper

SAVANNAH, Ga., May 18, 1942—Quoting from a recent booklet the statement that "if all of the pulp and paper mills in the world stopped operating tomorrow, the war would come to an end in less than sixty days," H. S. Daniels, vice president of the Union Bag and Paper Corporation, drew a vivid picture of the strategic position of pulp and paper in national defense at the second and last day's session of the Georgia Forestry Association at the Hotel Savannah. He added as his belief that if all the paper production in the United States stopped tomorrow the result would be the same.

The meeting was presided over by Albert Ernst, manager, woodlands division, Union Bag and Paper Corporation and before adjourment to Palmetto Bluff, Bluffton, S. C., for a barbecue luncheon and final business session as guests of the Union Bag and Paper Corporation another constructive address was delivered by B. E. Allen, district forester, South Carolina Forestry Department on the subject, "State Assistance on Management."

Aside from finish Appleton Felts are preferred for their quality, design, uniformity, dependability and service—today's standard for those characteristics mills look for in felts. Ever since 1890 Appleton Felts have kept pace year after year with the rapid progress of the paper industry, so that today Appleton Felts meet the requirements of modern paper mill high speed production.

made APPLETON FELTS good paper

APPLETON WOOLEN MILLS. APPLETON. WIS.

# CONSTRUCTION NEWS

**Irvington, N. J.**—Irvington Varnish and Insulator Company, 6 Argyle terrace, manufacturer of processed and coated papers for bottle caps and closure liners, insulation materials, etc., has plans under way for new addition to plant, consisting of a one-story structure, about 100 x 100 feet, reported to cost over $75,000, with equipment. Epple & Kahrs, 15 Washington street, Newark, N. J., are architects and engineers.

**Atlantic City, N. J.**—Fire recently damaged a portion of storage and distributing plant of Welsh Paper and Bag Company, Maryland terrace district, commercial paper goods, paper bags, etc. Loss reported close to $30,000, with equipment. It is planned to rebuild.

**Miamisburg, Ohio** — The Miamisburg Paper Company, manufacturer of envelope papers, bristol and other paper stocks, is awarding miscellaneous contracts for new addition to mill, recently noted in these columns, and work on superstructure is being placed under way. It will be one-story, about 121 x 135 feet, and will be used as a storage and distributing unit. Cost estimated in excess of $50,000, with equipment. Award for steel framing has been made to Dayton Fabricated Steel Company, Dayton, Ohio; and for millwork to Requarth Lumber Company, Dayton. A. P. Ziegler, Dayton, has the general erection contract. W. Ray Yount, Third National Bank Building, Dayton, is consulting engineer.

**Holyoke, Mass.**—The Parsons Paper Company, 85 Sargeant street, manufacturer of bond and other paper stocks, has filed plans for improvements, including installation of three new freight elevators in mill. Cost estimated close to $20,000. Contracts for work have been let to P. J. Kennedy & Co., 118 Race street, Holyoke, and George T. McLauthlin Company, 120 Fulton street, Boston, Mass., and will be carried out at once.

**Grand Rapids, Mich.** — The Tanglefoot Company, 314 Straight avenue, S.W., manufacturer of fly paper, etc., has awarded contract to F. W. Burgstahler, 1235 Third avenue, N.W., for remodeling second floor of building at address noted, to be converted for office and other operating service. No estimate of cost announced.

**Savannah, Ga.**—The Union Bag and Paper Corporation, manufacturer of kraft wrapping and bag papers, has active work in progress on expansion program at local mill, under way for some time past, including new units and installation of equipment for considerable increase in present capacity. Work is scheduled for completion early in the fall.

**Los Angeles, Calif.**—Johns-Manville Corporation, 2375 East Slauson avenue, manufacturer of wall board, insulation board and kindred products, has approved plans for new one-story building, about 20 x 50 feet, at 2420 East 223rd street, Watson district, to be used for storage and distribution. A building permit has been issued and work will be placed under way at once.

**Phillipsburg, N. J.** — The Canister Company, North Broad street, manufacturer of fiber boxes, cans and other containers, has plans maturing for proposed new addition to plant, recently referred to in these columns, and bids are scheduled to be asked on general erection contract at early date. It will be two-story, instead of one-story as previously announced, about 60 x 228 feet, and will be equipped for large capacity. Output will be used by Government. Cost is reported in excess of $350,000, with equipment. Financing will be provided by Defense Plant Corporation, Washington, D. C., a Federal agency. P. Beidler, Bethlehem Trust Building, Bethlehem, Pa., is architect; Gravell & Duncan, Architects' Building, Philadelphia, Pa., are consulting engineers.

**Holyoke, Mass.**—The American Writing Paper Corporation, 9 Main street, manufacturer of writing and other paper stocks, will make improvements in building on Cabot street, including installation of an electric elevator. Work will be placed under way at once and will be carried out by day labor.

**Newark, N. J.**—Disbrow Manufacturing Company, Inc., 26 Nesbitt street, manufacturer of folding paper boxes and containers, is now running on a day and night shift basis, with current output averaging about 70 per cent for production of boxes for Government service. Company also is developing sizable output for the manufacture of small paper envelopes for special service in connection with the conservation of sugar, etc. Plant equipment has been augmented and conditioned to provide for maximum plant capacity.

**La Tuque, Que.**—The Brown Corporation, 71 St. Peter street, Quebec, Que., manufacturer of kraft and other paper stocks, has begun construction of new addition to mill at La Tuque, for which general contract recently was awarded to John Wickenden, 363 St. Francis Xavier street, Three Rivers, Que. Equipment installation will provide for large increased capacity. Entire project is reported to cost close to $500,000.

### New Companies

**New York, N. Y.**—Stone & Loro, Inc., has been incorporated with capital of 325 shares of stock, no par value, and $10,000, to deal in special paper stocks. New Company is represented by Abraham L. Pomerant, 295 Madison avenue, New York, attorney.

**Providence, R. I.**—The General Envelope Company, 42 Weybosset street, has filed registration of company name, to deal in commercial envelopes and kindred paper products. Louis Berkowitz, 476 Shirley street, Winthrop, Mass., and Maurice Richmond, 98 Strathmore road, Brighton, Mass., are heads.

**New York, N. Y.**—Manville Broadland, Inc., has been incorporated with capital of 1000 shares of stock, no par value, to deal in commercial paper goods of various kinds, stationery, etc. New company is represented by Bettigole & Port, 9 East Fortieth street, attorneys.

# News of the Pennsylvania Paper Industry

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 25, 1942—As a result of the continuous rains for three days, the Schuylkill, Susquehanna, Lehigh and Lackawanna rivers overflowed their banks, causing a washout of waterfront industries and hampering highway and railroad traffic in Berks, Luzerne, Lackawanna, Lancaster, Carbon, Schuylkill, Tioga and Wayne counties. In some places, the floods were countywide and described as the worst in recent years, forcing many industrial plants to close. Among the Reading plants shut down was the Reading Glazed Paper Company.

### Norman W. Wilson Appointed Chairman

Norman W. Wilson, president and general manager of the Hammermill Paper Company, Erie, Pa., has been appointed chairman of the general board of the Community and War Fund of Erie County, according to an announcement made by James B. Dwyer, for the incorporators. The general board of the Community and War Fund will be composed of more than 100 of the outstanding citizens of the community. In accepting the chairmanship of the general board, Mr. Wilson stated: "I believe that the organization of one drive not only for our necessary local social services but to raise enough funds to take care of the various organizations serving our armed forces and to meet the needs of national and international relief organizations is a patriotic necessity. It will save a great deal of money by eliminating unnecessary campaign costs; it will save thousands of man-hours necessary to produce war materials by eliminating numerous interruptions for solicitations; it will conserve the time of 1500 or more solicitors who assist in various campaigns and it will develop a spirit of local and national unity which is very desirable in any war period.

### Denney Tag Co. Moves Office

Harry S. Platt, Philadelphia Representative of the Denney Tag Company, announces the removal of his office from Real Estate Trust Building, to Lewis Tower, Locust at Fifteenth street.

### Golf Schedule is Announced

Dick Richards, chairman of the Philadelphia Paper and Cordage Association, announces the golf schedule of the association as follows: June 16 at Manufacturers Country Club, Oreland, Pa., when the Schuylkill Paper Company's trophy will be played for; July 21 at Huntingdow Valley Club, Abington, Pa., with Frank O'Neill as host, at which time the Howard Paper Company's trophy will be put up; August 18, Old York Road Country Club, Jenkintown, Pa., with Morgan H. Thomas as host, when the Morgan H. Thomas trophy will be played for; September 15, Arthur Sherrill will be host at Aronimink Country Club, Newtown Square, with the Beveridge Paper Company's trophy in play; October 6 at Pine Valley Country Club, Clementon, N. J., with E. Weinenmayer, Jr., as host, when the Jack Shinners and Jessup & Moore Paper Company's trophy will be competed for.

NEW FLEXIBILITY
BENDING ZONE
PERFORATED BLADES
for Dryers and Calenders
Taking something out of a doctor blade puts something in, i.e., taking metal out (perforating) the rear section takes out longitudinal stiffness caused by the normal curvature of working pressure. It gives the front or working section more flexibility for even-pressured contact with the roll. Lodding Floating Doctors are "prescription-engineered", for every position. Let us diagnose your conditions... Write either the Lodding Engineering Corp., Worcester, Mass., or the W. E. Greene Corp., Woolworth Bldg., New York.
LODDING
FLOATING
Rx FOR EVERY PURPOSE Doctors

# FINANCIAL NEWS

### New York Stock Exchange

High, Low and Last for Week Ending May 23, 1942

STOCKS

| | High | Low | Last |
|---|---|---|---|
| A. P. W. | 1⅜ | 1⅜ | 1⅜ |
| Armstrong Cork Co. | 25½ | 24⅞ | 25½ |
| Celotex Corp. | 7 | 6¾ | 6⅞ |
| Celotex Corp., pf. | .... | .... | .... |
| Certain-Teed Products Corp. | 1⅞ | 1¾ | 1¾ |
| Certain-Teed Products Corp., pf. | 26 | 24½ | 24½ |
| Champion Paper & Fibre Co. | 15 | 14½ | 14½ |
| Champion Paper & Fibre Co., pf. | 97½ | 97½ | 97½ |
| Congoluem Nairn Co. | 13¾ | 13½ | 13½ |
| Container Corp. of America | 12¾ | 12⅝ | 12¾ |
| Continental-Diamond Fibre Co. | 7½ | 7⅜ | 7⅜ |
| Crown-Zellerbach Co. | 10½ | 10¼ | 10½ |
| Crown-Zellerbach Co., pf. | 78⅜ | 77 | 77 |
| Flintkote Co. | 11½ | 11⅛ | 11¼ |
| Robert Gair | 1¾ | 1⅜ | 1⅜ |
| Robert Gair, pf. | 9½ | 9½ | 9½ |
| International Paper Co. | 11 | 9¾ | 9⅞ |
| International Paper Co., pf. | 52 | 51⅝ | 52 |
| Johns-Manville Corp. | 53 | 51 | 53 |
| Johns-Manville Corp., pf. | 125½ | 125 | 125½ |
| Kimberly Clark Corp. | 27⅛ | 27¼ | 27¼ |
| MacAndrews & Forbes | 17 | 17 | 17 |
| MacAndrews & Forbes, pf. | 124 | 124 | 124 |
| Masonite Corp. | 23½ | 23 | 23½ |
| Mead Corp. | 6¾ | 6½ | 6½ |
| Mead Corp., pf. | 64 | 64 | 64 |
| Paraffine Companies, Inc. | 24½ | 23¾ | 24½ |
| Paraffine Companies, Inc., pf. | .. | .... | .... |
| Rayonier, Inc. | 8¼ | 8¼ | 8¼ |
| Rayonier, Inc., pf. | 25 | 25 | 25 |
| Ruberoid Co. | 17¾ | 17 | 17¾ |
| Scott Paper Co. | 29⅛ | 29⅛ | 29⅛ |
| Scott Paper Co., pf. | .... | .... | .... |
| Sutherland Paper Co. | 20 | 19⅜ | 19⅜ |
| Union Bag & Paper Corp. | 8⅞ | 8¼ | 8¼ |
| United Paperboard Co. | 3¼ | 3⅛ | 3¼ |
| U. S. Gypsum Co. | 43¾ | 41¼ | 43 |
| U. S. Gypsum Co., pf. | 163 | 162 | 162 |
| West Virginia Pulp & Paper Co. | 13 | 12⅞ | 13 |

BONDS

| | | | |
|---|---|---|---|
| Abitibi Pulp & Paper Co. 5s '53 | 47 | 45¼ | 45½ |
| Celotex Corp. 4½s '47 | 96¼ | 95 | 95½ |
| Certain-Teed Products Corp. 5½s '48 | 86¼ | 85⅝ | 86 |
| Champion Paper & Fibre Co. 4¾s '50 | 104⅞ | 104¾ | 104⅞ |
| Champion Paper & Fibre Co. 4¾s '50 | .... | .... | .... |
| International Paper Co. 6s '55 | 104⅞ | 104¾ | 104⅞ |
| International Paper Co. 5s '47 | 104 | 103⅞ | 104 |
| Mead Corp. 4½s '55 | .... | .... | .... |
| West Virginia Pulp & Paper Co. 3s '54 | .... | .... | .... |

### New York Curb Exchange

High, Low and Last for Week Ending May 23, 1942

STOCKS

| | High | Low | Last |
|---|---|---|---|
| American Box Board Co. | 4⅛ | 4⅛ | 4⅛ |
| Brown Co., pf. | .... | .... | .... |
| Great Northern Paper Co. | 27½ | 27¼ | 27¼ |
| Hummel-Ross Fibre Corp. | 4 | 3⅞ | 3⅞ |
| National Container Corp. | 8¼ | 8⅛ | 8¼ |
| St. Regis Paper Co. | 1¾ | 1⅝ | 1⅝ |
| St. Regis Paper Co., pf. | 113 | 112½ | 112½ |
| Taggart Corp. | 2⅛ | 2½ | 2⅛ |

BONDS

| | | | |
|---|---|---|---|
| American Writing Paper Co. 6s '61 | 80 | 80 | 80 |

## Johns-Manville Votes Dividend

Directors of the Johns-Manville Corporation have declared a dividend of 50 cents a share on the common stock, payable on June 24. This declaration compares with 75 cents a share paid in the first quarter of this year which had been the quarterly rate during 1941. The regular quarterly dividend of $1.75 a share also was declared on the 7% preferred stock, payable on July 1.

## Holdings of Bird Stock

As of March 31, 1942, Philip R. Allen held 2870 shares of Bird & Son, Inc., 5% preferred stock, or 13.27% of the issue; Edith B. Bass held 2290 shares, or 10.59% of the issue; Charles S. Bird, Jr., held 2820 shares, or 13.04% of the issue.

## National Container Profits Up

Net profit after all charges including Federal normal taxes, surtaxes and excess profits taxes totalled $294,593.36 for the first quarter of 1942 equal to $.86 per share compared with $225,618.29 for the first quarter of 1941 equal to $.68 per share on 330,482 shares of common stock outstanding.

Profit before Federal income taxes, surtaxes and excess profits taxes amounted to $880,481.48 for the first quarter of 1942 compared to $304,997.54 for the first quarter of 1941.

Federal Income taxes, surtaxes and excess profits tax estimates were based on 1942 rates recommended by the U. S. Treasury Department.

Combined net sales of the corporation and its subsidiaries for the period January 1 to March 31, 1942 were $2,400,881.17 compared with $1,556.011.71 for similar period in 1941.

## Union Bag To Issue Debentures

The Union Bag and Paper Company concluded on March 30 an arrangement with an insurance company to borrow $5,500,000 at 3⅝% for fifteen years under a debenture issue provided with a sinking fund.

With the proceeds the company retired its $4,450,000 of 2⅞% serial notes. The agreement provides that an additional $2,500,000 will be available from the sale of debentures as the company completes plant and property acquisitions in like amount.

## Riegel Earns $1.86

In an item printed in the PAPER TRADE JOURNAL of May 21, 1942, regarding the earnings of the Riegel Paper Company, the heading read "Riegel Earns $2.34." This figure is the income per share for 1940, as is shown in the body of the article. The heading should have read, "Riegel Earns $1.86."

## Allied Mills Profits Up

The Allied Paper Mills for 1941, reports a net income of $497,229, equal after preferred dividends, to $2.22 each on 173,828 common shares, against $340,588 or $1.31 a common share in 1940.

## Hollingsworth & Whitney Report

The Hollingsworth & Whitney Company for 1941, reports a consolidated net profit of $1,467,379, equal to $7.82 each on 187,719 shares, compared with $521,538, or $2.77 on 188,604 shares, in 1940.

## Weyerhaeuser Nets $2.87

The Weyerhaeuser Timber Company for 1941, reports a net income of $8,613,529, or $2.87 each on 3,000,000 capital shares, against $8,248,795 or $2.75 a share in 1940.

## Get Navy E

American Blower Corporation, pioneer in the development and manufacture of fluid drives (hydraulic couplings) in America, received official recognition of its contribution to the war effort, May 14, when Rear Admiral John Downes, U. S. N., Commandant, Ninth Naval District, presented the Navy "E" Burgee awarded by the Navy Department for outstanding performance in the production of fluid drives and other naval material.

Employees of Tireman Avenue and Russell Street Plants, and their families, witnessed formal presentation of "E" insignia by Commander Robert Velz, U. S. N., Inspector of Naval Material, Detroit. Charles Goetsch and Christopher Kirn, oldest employees in point of service, accepted the insignia in behalf of their fellow workers.

Award of the coveted Navy "E" to American Blower climaxes more than a decade of pioneering in the development and application of the Fluid Drives in this country. The company, in its Russell Street plant, began manufacture of fluid drives for marine use in 1932. Subsequent improvements in design and manufacturing methods have made it possible to utilize the Fluid Drives in many widely varied ways.

American Blower, for many months, has been on an "all-out for Victory" schedule, producing not only fluid drives and other special equipment for the U. S. Navy, but industrial blowers, Forced Draft Fans, and various other types of Air Handling Equipment for war work in factories of the Defense Plant Corporation, the U. S. Army Air Corps, the Ordnance Department and the U. S. Maritime Commission.

The Color Guard of the Naval Training School, Detroit, and the Navy Service School Band participated in the ceremonies. S. L. A. Marshall, news analyst and commentator, was chairman.

## Irish Paper Scarce

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 27, 1942—Dublin newspaper prices were advanced about one third recently owing to a rise in newsprint costs from £9 to £70 per ton according to a report reaching the Department of Commerce. At the same time the newspapers face a loss in revenue because their reduced page size results in less advertising space.

The report states further that some newspapers are carrying classified advertisements only on alternate publishing days; and most have fewer pages. Paper mills have been pulping straw because of the scarcity of imported wood pulp, and the necessity of using straw mixed with waste pulp is forseen; at least for newsprint manufacture.

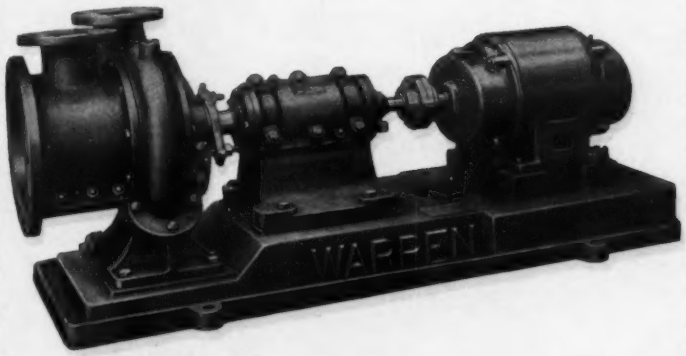
A further report from Ireland states that sinking stocks of newsprint paper there reflect a general industrial condition and at present are said to be sufficient for only three or six months.


*"More Paper!" demanded the Navy...*

★

**"AYE, AYE," SAID THIS**

**WARREN PUMP**




**About two years ago a Warren Machine Chest Pump was installed in a paper mill making a special type of paper used by Uncle Sam's Navy. With the demand for this paper greatly increased, all that the mill has had to do to get additional capacity from the Warren Pump has been to open up the valve in the discharge line.**

**If you need pumps that are able to *increase capacity* to meet *increased* demands, get in touch with Warren.**

**Warren Steam Pump Co.**
INCORPORATED
WARREN, MASSACHUSETTS, U. S. A.


## Paper Index Higher

WASHINGTON, D. C., May 27, 1942—During the month of March the index of the value of paper manufacturers inventories was 140.1 compared with 137.8 in February and 120.4 in March of last year taking the average month of 1939 at 100 according to the monthly survey of industry of the Department of Commerce.

The index of the value of paper manufacturers shipments in March was 172 compared with 173 in February and 131 in March of last year.

# PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

Henry J. Berger
EDITOR

Vol. 114 May 28, 1942 No. 22

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION. Twenty-third Annual Convention, Pantlind Hotel, Grand Rapids, Mich., June 16-18.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Fall Meeting, Statler Hotel, Boston, Mass., September 30-October 1.


## REALLOTMENT FORMULA

Manufacturers and their distributors are finding it increasingly difficult to continue doing business for civilian needs. Many of these requirements are, of course, fully as important as the accouterments of war. The urgency of speeding up the production of all military supplies is a pressing necessity with which most intelligent persons are fully aware. Its significance is tersely and aptly expressed in the heading in the May 18 issue of the *Washington Review,* published by the Chamber of Commerce of the United States, in its special presentment of the more pertinent news on the home front, entitled "Washington War Review."

This heading is "Less for You—More for War". The article goes on to say that, "This reallotment formula is being applied with growing severity to America's available goods and services. Spreading down from plant conversion to consumer-goods regulation, it is having the effect of making the nation's one hundred thirty millions more alertly war-conscious. Sugar and gasoline, automobiles and tires, may be forerunners of further consumer items whose rationing to the public will be regarded as essential to wartime tightening of the nation's belt."

In commenting on the important subject of protecting and conserving resources, the article states in part that, "The Office of Price Aministration estimates 8,500,000 car owners are affected by the gasoline registration of May 12-14. The OPA also estimates the stockpile of passenger car tires amounts to from 7,000,000 to 8,000,000, compared with normal annual sales of 40,000,000. The Office for Emergency Management states that 5% of the automobiles now laid up for lack of tires, and other motorists "riding themselves off the road at an average rate of 3½% a month". The Reconstruction Finance Corporation has made $150,000,000 available for the purchase of new and used tires in hands of consumers. According to the OEM, the nation's rubber stockpile will be increased 30%."

Other highlights in this more for war and less for other purposes, formula as outlined in the *Review,* draws attention to the fact that "during the first three days of registration 96,591,000 persons, 73% of the population, received sugar-ration books . . . The Interior Department undertakes an emergency fire protection program for 30,000,000 acres of forest lands in the United States and 100,000,000 acres in Alaska . . . The War Production Board sets up an emergency program applicable whenever and wherever power shortages develop . . . All dealers selling waste, scrap or salvage material were automatically put under Federal license May 20 . . . The British Purchasing Commission turns back, through regular trade channels, 27,000,000 pounds of scrap steel and 500,000 pounds of copper originally intended for shells for field guns made obsolete at Dunkirk . . . Domestic stove production concentrated in smaller manufacturing plants, has released 92 larger plants for war work . . . The WPB delegates to the OPA rationing control over bicycles for adults . . . The Federal Power Commission Chairman says the war production program will require a 75% increase over 1940 in electric power generation . . . The OEM states a recent survey shows passenger cars are carrying an average of less than two passengers, including the driver, or less than 40% of capacity . . . And, the WPB estimates inactive inventories will yield 255,000 tons of copper and 45,000 tons of zinc."

In reference to the diversion of workers from civilian to war production, the *Review* states that, "During 1942, the Selective Service Director, says that the number of workers in war plants must be tripled and in the Armed Services, doubled. The U. S. Employment Service placed 510,000 persons during the month of March . . . The Selective Service, designates, for deferment consideration, certain critical occupations in the coal industry, in the railroad industry, in ship construction, and in coastal, intercoastal and off-shore water transportation."

Among the new general measures, the *Review* points out that the New Services Branch of the WPB Division of Industry Operations is set up to assist 2,900,000 service institutions, such as banks, insurance companies, wholesale houses, retail stores, hotels, laundries, etc. . . . The Commerce Department is authorized to dispense with or curtail any census or statistical work that might interfere with war investigation and is directed to dispense with the 1941 census of manufacturing industry . . . The WPB Chairman creates the Office of Organization Planning to eliminate duplication, promote decentralization, and coordinate WPB relationships with other agencies . . .

The domestic airlines are placed on a new wartime footing with a substantial number of planes taken over by the Army or placed under contract as Army cargo carriers, resulting in curtailment of air travel . . . Federal workers in Washington now number well towards a quarter of a million. New employees continue to flock into the city by the thousands."

The citations of some of the important considerations of this reallotment formula rather sharply emphasizes the grim necessities of war and indicates the substantial sacrifices, which will necessarily entail severe hardships, to almost all persons and certainly to all non-defense industrial plants and many types of services. Many divisions of the paper industry are now feeling the pinch of this reallotment formula and, unfortunately, the situation of many of these concerns is expected to become more critical. Many will be forced to suspend operations if the war effort be long continued on the huge scale considered essential to achieve victory. More and more for war seems to be the only choice, when the only alternative is failure and defeat.

## Frank O'Neil in U. S. Army

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 25, 1942—Frank O'Neil, Boston representative of the Paper House of New England, Springfield, Mass., is now in the U. S. Army, stationed at Camp Devens.

## Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

| Current Weeks, 1942 | | Corresponding Weeks, 1941 | |
|---|---|---|---|
| April 11 | 99.0 | April 12 | 95.0 |
| April 18 | 100.5 | April 19 | 94.0 |
| April 25 | 99.9 | April 26 | 97.8 |
| May 2 | 99.2 | May 3 | 99.8 |
| May 9 | 97.8 | May 10 | 99.1 |
| May 16 (Prelim.) | *97.3* | May 17 | 98.6 |

COMPARATIVE MONTHLY SUMMARIES

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July |
|---|---|---|---|---|---|---|---|
| 1941 | 85.6 | 89.7 | 92.2 | 96.0 | 98.7 | 99.3 | 94.2 |
| 1942 | 103.8 | 103.4 | 102.7 | *100.0* | .... | .... | .... |

| Year | Aug. | Sept. | Oct. | Nov. | Dec. | Year Avg. |
|---|---|---|---|---|---|---|
| 1941 | 101.0 | 99.7 | 105.2 | 106.2 | 100.4 | 97.4 |
| 1942 | .... | .... | .... | .... | .... | .... |

COMPARATIVE YEARLY SUMMARIES

| | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 |
|---|---|---|---|---|---|---|---|---|
| Year to Date | 68.3 | 77.8 | 89.6 | 67.5 | 80.2 | 85.7 | 88.9 | *101.9* |
| Year Average | 69.9 | 80.4 | 79.8 | 71.5 | 83.4 | 85.6 | 97.4 | .... |

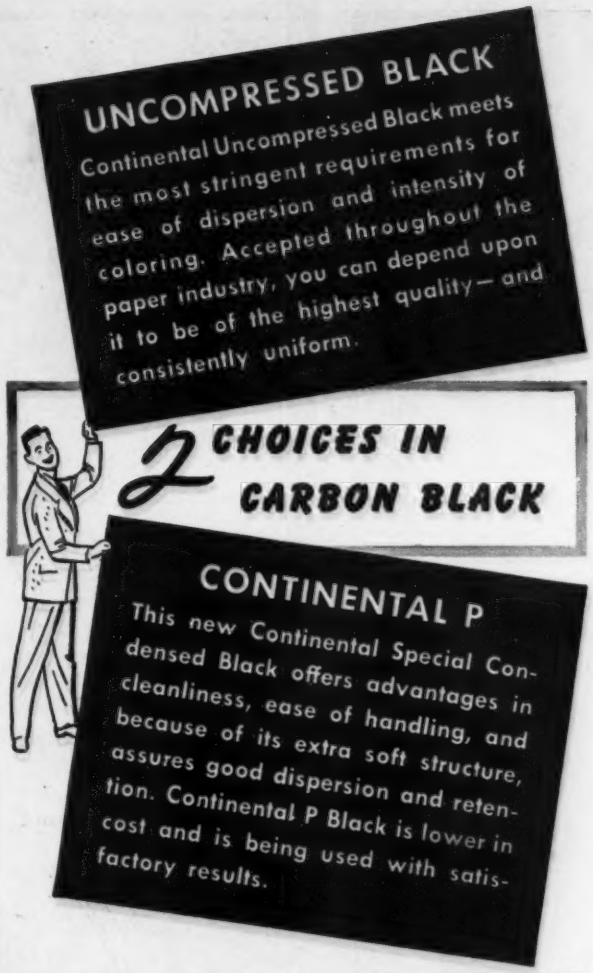
* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS † (Revised)

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1937 | 83 | 89 | 89 | 91 | 88 | 80 | 69 | 77 | 72 | 70 | 57 | 47 | 75 |
| 1938 | 56 | 63 | 63 | 60 | 60 | 59 | 59 | 69 | 70 | 73 | 67 | 61 | 64 |
| 1939 | 65 | 73 | 76 | 74 | 69 | 73 | 68 | 77 | 82 | 91 | 88 | 77 | 77 |
| 1940 | 78 | 75 | 74 | 76 | 82 | 85 | 77 | 79 | 78 | 85 | 82 | 77 | 78 |
| 1941 | 81 | 88 | 89 | 89 | 91 | 94 | 92 | 98 | 93 | 99 | 98 | 90 | 92 |
| 1942 | 102 | 101 | 101 | 90 | .. | .. | .. | .. | .. | .. | .. | .. | .. |

| | | | |
|---|---|---|---|
| Week ending Apr. 11, 1942 | 93 | Week ending May 2, 1942 | 90 |
| Week ending Apr. 18, 1942 | 94 | Week ending May 9, 1942 | 86 |
| Week ending Apr. 25, 1942 | 93 | Week ending May 16, 1942 | *82* |

† Per cents of operation based on "Inch-ours" reported to the National Paperboard Assn.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★ Valley with its fine shops and trained personnel was marked early for war production. Such production is now in full swing.

★ Concern for the interests of our regular customers is seriously in our thoughts, but such considerations have been taken out of our hands. The regulations are pretty clear:—small repairs are O.K.—necessary repairs will be permitted—but expansion is out for the duration.

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## VALLEY IRON WORKS COMPANY

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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

# TAPPI Fall Meeting Organization

The fall meeting of the Technical Association of the Pulp and Paper Industry will be held at the Statler Hotel, Boston, Massachusetts, on September 28-29 and October 1, 1942.

Preliminary plans are under way to arrange a program of vital interest to the industry. By September the industry will be confronted with an ever increasing demand and opportunity to carry on its activities on a wartime footing. By then nearly everyone will have had experience in meeting materials and product restrictions and there will be a definite need for a conference of mill men and advisers from the allied industries to get together and contribute information to the common pool of knowledge to help carry on the industry and win the war.

The following have been appointed to membership on the Fall Meeting Committee:

GENERAL CHAIRMAN

Norman I. Bearse, Champion International Company.

VICE CHAIRMAN AND SECRETARY

Helen U. Kiely, American Writing Paper Corporation.

VICE CHAIRMEN

Frederic C. Clark, Newton, Mass.
W. E. Brawn, Pejepscot Paper Company

ADVISORY COMMITTEE

W. E. Kenety, Fitchburg Paper Company, *Chairman*
Winthroy L. Carter, President, Nashua Gummed & Coated Paper Co.
Dexter D. Coffin, President, C. H. Dexter & Sons, Inc.
G. W. Mabee, President, National Folding Box Company
Eugene M. Dow, President, Parker-Young Company
Roger D. Smith, President, S. D. Warren Company
Karl Compton, President, Massachusetts Institute of Technology
Thomas H. Blodgett, Chairman Bd. of Dir., American Writing Paper Corp.
H. P. Carruth, General Manager, Brown Company
H. A. Moses, President, Strathmore Paper Company
Winthrop M. Crane, Jr., President, Crane & Company, Inc.
Louis E. Vose, Vice President, Hollingsworth & Vose Company
Clyde B. Morgan, President, Eastern Corporation
Walter B. Sheehan, President, Missisquoi Corporation
Amor Hollingsworth, President, Penobscot Chemical Fibre Company
His Excellency Leverett Saltonstall, Governor of Massachusetts
His Honor Maurice P. Tobin, Mayor of Boston

ARRANGEMENTS COMMITTEE

R. H. Doughty, Fitchburg Paper Company, *Chairman*
J. J. Healy, Jr., Monsanto Chemical Company
Paul I. Knight, Bird & Son, Inc.
H. L. Thompson, Nashua River Paper Company
George R. Wallace, 3rd, Fitchburg Paper Company

ENTERTAINMENT COMMITTEE

F. W. Schneider, Hampden Color and Chemical Company, *Chairman*
Woodward Allen, Solvay Sales Corporation
H. F. Bigelow, Weyerhaeuser Timber Company
Robert Mannheim, Mathieson Alkali Works
Roy Tewksbury, Stowe-Woodward, Inc.
William Thompson, Krebs Pigment & Color Corporation

FINANCE COMMITTEE

W. L. Foote, B. F. Perkins & Son, Inc., *Chairman*
Dr. Werner Kaufman, Kupfer Bros. Company
H. W. Schwartz, Robertson Paper Box Company

LADIES COMMITTEE

F. K. Becker, Bird Machine Company, *Chairman*
Mrs. Norman I. Bearse
Mrs. F. K. Becker
Mrs. Frederic C. Clark
Mrs. J. J. Healy, Jr.

PROGRAM COMMITTEE

L. B. Tucker, Crane & Co., *Chairman*
C. H. Childs, Monroe Paper Company, *Vice Chairman*
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R. C. Griffin, Arthur D. Little, Inc.
R. A. Packard, Smith Paper Company

PUBLICITY COMMITTEE

H. L. Mellen, Hercules Powder Company, *Chairman*

Dr. F. H. Frost, S. D. Warren Company
A. D. King, Monsanto Chemical Company
R. W. Pattison, American Writing Paper Corporation
J. F. Wright, National Aniline & Chemical Company

REGISTRATION COMMITTEE

H. T. Barker, Bird & Son, Inc., *Chairman*
R. D. McCarron, Stein Hall, Inc.
Dr. H. J. Skinner, Skinner & Sherman, Inc.

TRANSPORTATION COMMITTEE

J. P. Kennedy, American Writing Paper Corporation, *Chairman*
P. S. Barnhart, Westfield River Paper Company
C. W. Horton, R. T. Vanderbilt, Inc.

## New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

W. J. Alford III, assistant treasurer of the Continental Paper Company, Ridgefield Park, N. J., a 1937 graduate of Yale University and formerly with the Southern Kraft Corporation, Georgetown, S. C.

Charles L. Corpening, chemist, North Carolina Pulp Company, Plymouth, N. C., a 1937 graduate of the University of North Carolina, and formerly with the Halifax Pulp and Paper Company, Roanoke Rapids.

Henry C. Crandall, chemist, Mosinee Paper Mills Company, Mosinee, Wis., a 1932 graduate of Northland College, and formerly with Marietta Dyestuffs Company, Marietta, Ohio.

Archie J. Deutschman, Jr., student, the Institute of Paper Chemistry, Appleton, Wis., a 1939 graduate of the University of Illinois, and also received his M.S. degree from Lawrence College in 1941.

Edson J. Ferrell, chemist, Fraser Paper Company, Madawaska, Maine, a 1937 graduate of Massachusetts State College.

Wallace C. Heim, chemist, Pacific Mills Limited, Ocean Falls, B. C., a 1940 graduate of the University of British Columbia.

Richard J. Kelly, chemist-colorist, Ashuelot Paper Company, Hinsdale, N. H., attended St. Anselms College and Manhattan College and formerly with Smith Paper Inc., Lee, Mass.

G. H. Rudkin, plant chemist, British Columbia Pulp and Paper Company, Ltd., Vancouver, B. C., a 1933 graduate of the University of British Columbia, and formerly with the British Columbia Pulp and Paper Company, Ltd., Woodfibre, B. C.

## Canadian Technical Section to Meet

The summer meeting of the Technical Section, Canadian Pulp and Paper Association, will be held at the Seigniory Club, Montebello, Quebec, June 18, 19 and 20.

It was decided that only members of the Technical Section and non-members who are employed at pulp and/or paper mills would be registered and allowed to attend the group discussions at the Summer Meeting. Registration for the two categories was set at $3.00 for members and $5.00 for non-members.

Regular discussion periods will commence on Thursday afternoon, June 18th at 2:30 p.m. and continue Friday morning commencing at 9:30 a.m. and Friday afternoon commencing at 2:30 p.m. Group Discussions will be held by the following committees: Board, Engineering, Fine Papers, Groundwood, Heat and Power, Kraft, Newsprint, Printability, Pulp Evaluation, Physical & Chemical Standards, Sulphite, Waste, and Wood Chemistry.

The only official function of the meeting will be a dinner on Thursday evening, June 18, at which time the guest speaker will be E. M. Little, director, National Selective Service for Canada. There will be a luncheon meeting held on the same day, commencing at 11:30 a.m., for members of the Technical Council and committee chairmen.

## TAPPI Notes

The Delaware Valley Section of TAPPI will hold its annual dinner dance at the Bala Country Club, Bala, Pa., on June 5th at 6:30 P.M. There will be golf in the afternoon.

The Pacific Section of TAPPI will meet jointly with the Superintendents at the Portland Hotel, Portland, Ore., on June 5-6 ,1942.

The Technical Association has distributed about 70,000 copies of Paper—The Lifeblood of Civilization.

W. L. Schnorbach, formerly of the Filer Fibre Company, is now a pilot at Kelly Field, Texas, in the U. S. Army Air Corps.

Carl A. Anderson, formerly of the U. S. Gypsum Company, is now with the National Gypsum Company, Buffalo, N. Y.

H. M. Gray, formerly of the Cherry River Paper Company, is now a principal consultant in the Office of Price Administration, Washington, D. C.

## Volumetric Analysis

The Interscience Publishers has issued a book (310 pages) entitled Volumetric Analysis (Second Revised Ed.) by I. M. Kilthoff of The University of Minnesota and V. A. Stenger of the Dow Chemical Company. The book was originally published in German and translated into English. The present volume is a thorough revision and enlargement of its predecessors. The following subjects are covered: Fundamentals of volumeter analysis, ionization, oxidation and reduction, standardization of solution, the hydrolysis of salts, hydrogen-ion concentration, formation of complex ions, titration curves for neutralization and ion combination reactions, indicators, titration error, reaction velocity, adsorption and coprecipitation phenomena, methods for organic analysis, methods for determining the equivalence point. Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd street, New York, N. Y. for $4.50 per copy.

## Dr. Carpenter, Gen. Superintendent

Dr. Charles Carpenter, who has been technical director of Southland Paper Mills, Inc., Lufkin, Texas, since its inception, has just been selected for the post of general superintendent. Prior to his connection with Southland he was attached to the Herty Laboratory.

Dr. Carpenter received his education at Syracuse University and at Darmstadt, Germany.

# Drying Rate for Kraft Paper*

By A. E. Montgomery[1]


## Abstract

*Since the previous report on the drying rate for kraft paper in 1933 new large paper machines have been installed, making this resurvey seem desirable. The drying rates reported this year when corrected for steam pressure are not higher than those nine years ago, but higher steam pressures are general. Recent data indicate the slope of the curve showing increase in drying rate with increased steam pressure should be less than shown in the former report. There is positive indication that the drying rate increases with basis weight for light weight kraft papers, reaches a maximum, then drops off with increased weight for Fourdrinier board. An exceptionally wide variation is noted in the drying rates reported in this survey.*


Nine years ago a report was made by Montgomery *(5)* for the TAPPI Drying Committee on the drying rates for kraft paper. This was the first thorough study made on drying rates, and although the report was based on a substantial accumulation of data obtained through a survey of the kraft mills, studies made on other grades in later years caused the committee to believe that further data might modify the slope of the drying curves given at that time. Also it was realized that in these nine years a substantial number of new, high-speed, high-production machines had been installed in the south; that there had been a great increase in the production of Fourdrinier kraft board, data on which was meagre in the earlier report; that several of the new machines differed from earlier ones in having a large proportion of the drying surface in felt driers; and finally that the recent urge for increased drying capacity on kraft machines might have prompted the development of higher drying rates than found previously.

In the years since the first drying rate report was made on kraft paper the Drying, Heating, and Ventilating Subcommittee has collected data and reported on the drying rates of newsprint *(1)*, writing papers *(2)*, glassine and greaseproof papers *(9)*, tissue and absorbent papers *(6)*, a summary in 1936 on these grades *(3)*, then reports in 1939 on book and other printing papers *(7)*, and paperboard *(8)*, and in 1940 on pulp *(4)*.

The Drying Committee has believed knowledge of what constitutes good, average, and poor practice as regards drying rates would be useful to mill engineers and operating men by affording them a simple means to check any particular machine to see whether it is drying as it should under the given conditions.

The Committee has determined for each class of paper studied the approximate effect of steam pressure on drying rate. Attempts also have been made to evaluate the weight which should be given to such factors as entering and leaving moisture content, freeness of stock, weight or caliper, proportion of driers, and other variables, and it was hoped that these data this year on kraft would assist materially. There was not a sufficiently complete response to permit of accurate conclusions and the data received show much wider variations than naturally would be expected in this class of paper.

### Form of Questionnaire

The form of drying questionnaire used is similar to the forms used previously. Data was requested only for Fourdrinier machines making all sulphate paper and paperboard. The questions asked were:

1. Number of paper driers
2. Diameter of paper driers, inches
3. Number of felt driers
4. Diameter of felt driers, inches
5. Face width of driers, inches
6. Arrangement of driers (horizontal or vertical)? No. of tiers?
7. Condition of drier surface (clean-fair-coated)
8. Do you use any special air system on the driers or felts to aid in drying?

Separate columns were then provided in which were to be filled in answers to the following questions for *(a)* the sheet of paper or board found easiest to dry, or the one on which the best production was obtained, and *(b)* the sheet found hardest to dry or which gave the lowest production.

9. Classification of paper
10. Bleached or unbleached
11. Basis weight (give weight and basis)
12. Speed of machine, feet per minute
13. Steam pressure on driers (if divided into more than one section give effective average, lb. per sq. in.)
14. Moisture in sheet entering driers, % (this figure is important)
15. Moisture in sheet leaving driers, %
16. Comments on any special condition not given above which would influence drying rate on this machine.

Thus two sets of data were obtained for each machine reported. It should be noted that we did not ask the daily or hourly production nor the trim, but have calculated the drying rate from the machine speed and basis weight.

### Definition of Drying Rate

For our purpose drying rate has been defined as the pounds of paper dried ($R_p$) or pounds of water evaporated ($R_w$) per hour per square foot of total paper and felt drying surface covered by the width of the sheet.

### Method of Calculating Drying Rate

The total drying surface per inch of width:

$$S/W = 0.0218\ (N_p\ D_p + N_f\ D_f) \qquad (1)$$

Where $N_p$ and $D_p$ represent respectively, the number and diameter in inches of the paper driers and $N_f$ and $D_f$ represent respectively the number and diameter in inches of the felt driers.

The drying rate expressed in pounds of paper dried per hour per square foot of drying surface:

$$R_p = \frac{\text{Speed} \times \text{Weight}}{S/W \times K} \qquad (2)$$

Where

Speed = Speed of machine in feet per minute.
Weight = Standard ream weight of sheet.
K = A constant depending on the ream size, and which for wrapping papers on a basis of 24 x 36—480 is 376, or for 1000 sq. ft. is 200.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.
Contribution of the TAPPI Heat and Power Committee.
Note: This paper is based on a survey made by the Subcommittee on Drying, Heating and Ventilating.

[1] Member TAPPI; Western Manager, J. O. Ross Engineering Corporation, Chicago, Ill.

For calculating the pounds of water evaporated per pound of paper died (M) we have found the following formula most convenient and easily remembered:

$$M = O.D./O.D. - 1 \qquad (3)$$

where the O.D. above the line represents the percentage dryness of the sheet leaving the driers (the larger number), and the O.D. below the line represents the percentage dryness entering the driers.

The drying rate expressed in pounds of water evaporated per hour per square foot of drying surface then becomes:

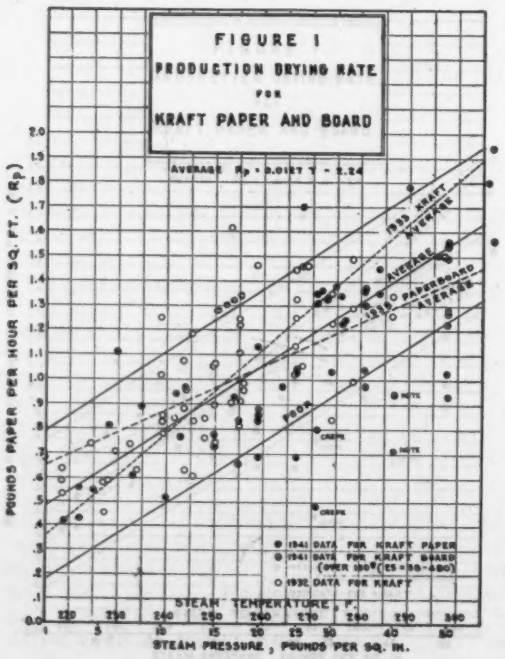
$$R_w = R_p \times M \qquad (4)$$

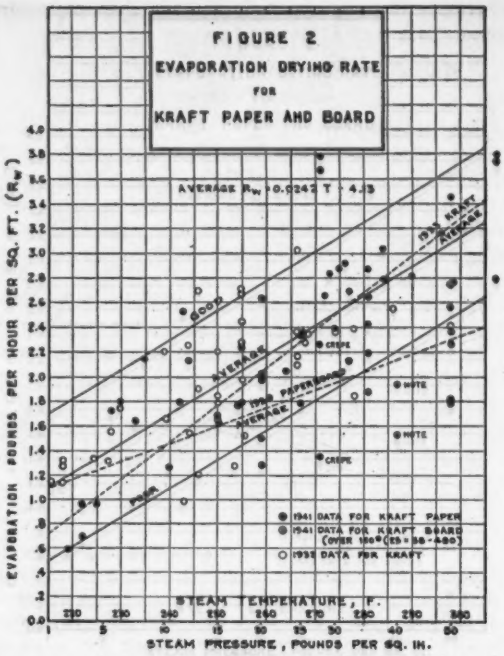
### Effect of Steam Pressure on Drying Rate

Figure 1 shows the production drying rate expressed in pounds of paper dried per hour per square foot of drying surface plotted against steam temperature and corresponding steam pressure. Figure 2 shows the evaporation drying rate plotted in the same manner.

A comparison of the tabulated and plotted data secured by the survey made this year with that which served as the basis for the earlier kraft drying rate report at once showed that there had been no material change, nor in fact any change detectable within a reasonable margin of error in sampling, in the drying rates of the two periods after making allowance for steam pressure. In consequence there are shown on these graphs both the former or 1932 data and the present 1941 data. There are shown also the average drying rate curve, for comparison, as determined by the excellent data reported in 1939 for paperboard. The slope of the new curves representing arbitrarily good, average, and poor practice are drawn from averages determined by pooling the 1932 and 1941 data.

As for all previous drying rate reports it is assumed that the drying rates are a straight line function of the steam temperature. Undoubtedly this is not exactly true, but it is sufficiently accurate for our purposes and the extent and variation of the data do not justify an attempt to determine any other curve.




In the 1939 report on paperboard it was pointed out how the excellent adequacy of that data justified an unusually close determination of the slope of the drying rate curves for paperboard, and the belief was expressed then that a greater amplification of the earlier kraft data would have shown a lesser slope. The addition of this new data does do that.

There now seems good evidence that the slope of the curves is greater for lightweight papers than for kraft board or any paperboard. Putting it another way, the increase in drying capacity to be gained by increasing the steam pressure would be greater on light weight or medium weight papers than on heavy board.

### Consideration of Felt Drier Surface

The preceding definition of drying rate considers the drier surface equally whether it be as paper driers or as felt driers. The committee decided upon this definition at the beginning for the following reasons: (1) it had the advantage of simplicity; (2) no one could fix upon any factor which could be applied correctly to felt drier surface to put it on the same basis of drying effectiveness as paper drier surface; (3) since felt drier surface formerly composed but a small proportion of the total drier surface any error was insignificant; and (4) felt drier surface roughly represents about the same investment cost as paper drier surface.

Contributing to this year's data, however, are machines having as high as 42% of the total drying surface in felt driers. One machine has 21%, another 20%, and a fourth 19%. The drying rates for the machine having 42% felt drying surface is represented on Figs. 1 and 2 with the word "note". Of course it may be that the exceptional low drying rate on this machine is due partly to other causes, but the probability is that with so much of the drying surface used for drying felts all this surface is not drying effectively, and further that felt drying surface

inherently is somewhat less effective than paper drying surface.

### Method of Correcting Drying Rate for Steam Pressure

The data graphed in Figs. 1 and 2 indicate that the drying rates for kraft may be represented by the formulae:

$$R_p = 0.0127\ T - C, \text{ and} \quad (5)$$
$$R_w = 0.0242\ T - C, \quad (6)$$

where:

$R_p$ = lb. of paper dried per hour per square foot of drying surface,
$R_w$ = lb. of water evaporated per hour per square foot of drying surface,
T = steam temperature in deg. F. of saturated steam at the pressure in the driers, and
C = a constant for the particular machine and grade of paper.

These formulas differ slightly from those in the previous kraft drying rate report. There is a strong indication that the numeral representing the slope of the curve is higher for light paper than for heavy board. In Formula 5 it may vary from 0.009 for board to 0.016 for light paper, and in Formula 6 from 0.02 to 0.03.

The chief value of the formula is that it permits the correction of the drying rates for comparison at a constant steam pressure. Naturally, steam pressure is the greatest single variable influencing the drying rate. By eliminating this variable from all the data and correcting to a constant steam pressure we are able to study the effect of such other variables as weight or caliper of sheet, freeness of sheet, and others. It is assumed that as the drying rate of the average machine varies with steam pressure in accordance with the formula that any one machine would vary in the same way.

By derivation in the same manner as developed in the former kraft paper report *(5)* it is possible to correct any observed drying rate at the observed steam pressure to a standard steam pressure and temperature. For our work we arbitrarily have selected 15 pounds steam pressure (250 F.) as standard, and the formulas for kraft in accordance with the data in Figs. 1 and 2 become:

$$R_p \text{ (Std.)} = R_p \text{ (Observed)} + 3.18 - 0.0127\ T \text{ (Observed)} \quad (7)$$
$$R_w \text{ (Std.)} = R_w \text{ (Observed)} + 6.05 - 0.0242\ T \text{ (Observed)} \quad (8)$$

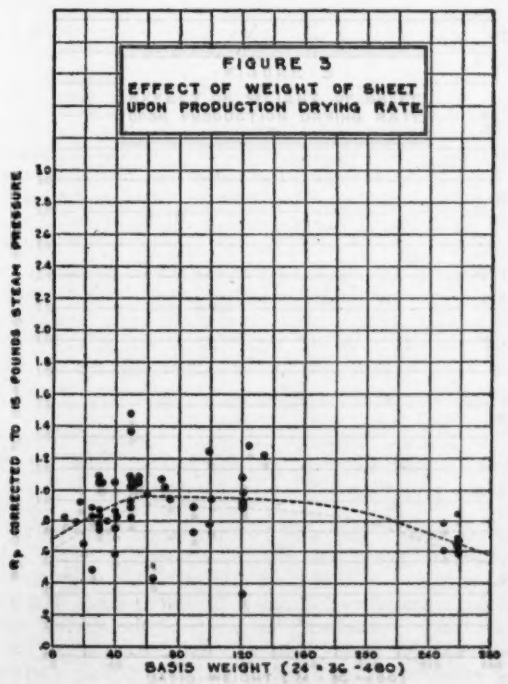


FIGURE 3
EFFECT OF WEIGHT OF SHEET
UPON PRODUCTION DRYING RATE
$R_p$ CORRECTED TO 15 POUNDS STEAM PRESSURE
BASIS WEIGHT (24 - 36 - 480)

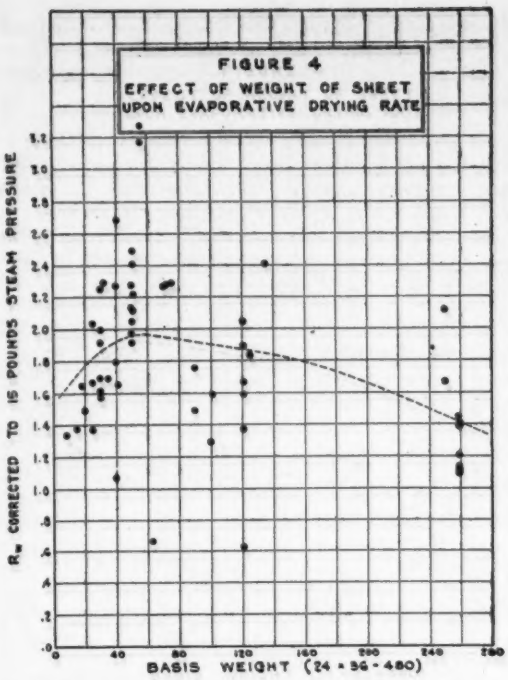


FIGURE 4
EFFECT OF WEIGHT OF SHEET
UPON EVAPORATIVE DRYING RATE
$R_w$ CORRECTED TO 15 POUNDS STEAM PRESSURE
BASIS WEIGHT (24 - 36 - 480)

### Effect of Weight of Sheet on Drying Rate

Figures 3 and 4 show the production and evaporative drying rates, corrected to 15 pounds standard steam pressure, plotted against the basis weight, which for convenience is all represented on the wrapping basis of 2880 square feet per ream. The group of data with basis weight of 250 to 260 is for approximately 0.030 kraft board.

In the previous report on kraft paper the data similarly plotted indicated no reduction in production drying rate $R_p$ with increased weight, although $R_w$ did appear to drop off. At that time there was an inadequacy of data for ream weights of over 100 pounds. In the drying rate report on paperboard *(8)* the effect of weight or caliper on drying rates was studied for paperboard, all ranging from 0.009 caliper (about 75 pounds on wrapping basis) up to very heavy boards, and the conclusion was reached that in this range caliper or weight had no marked effect on drying rate.

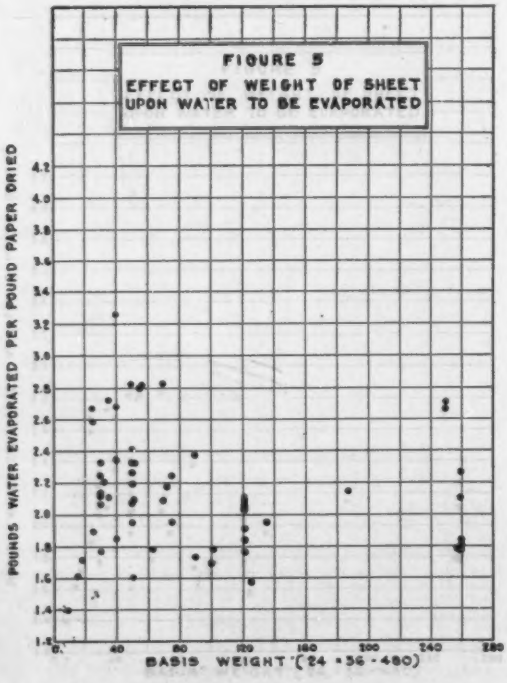
The new data on kraft, however, afford definite proof that within the wide limits now run on Fourdrinier kraft machines weight does have an effect on the corrected drying rates. For example data were received on five different machines for both 50- to 140-pound paper and 0.030 board. In each case a decidedly lower corrected drying rate (both $R_w$ and $R_p$) is observed for the heavy kraft board. In a similar manner scrutinizing the data for machines having reports for light kraft paper and heavy paper there is a general agreement showing lower corrected drying rates for the light papers, although this is not true in every case. There is evidence that the variation in drying rates with change in basis weight

follows somewhat the general trend indicated by the broken line curve on Figs. 3 and 4.

The entering moisture content for heavy sheets is less than for light weight sheets as is to be expected. This year's survey shows the average entering moisture content for 20 sets of data for 100-pound and heavier paper to be 68.3%, whereas for lighter than 100-pound it is 70.7% equivalent to 10% more water to be evaporated in the lighter papers.

The distribution of the factor, water to be evaporated, with respect to basis weight is shown in Fig. 5. Granted that there may be a considerable source of error due to mills not knowing accurately the moisture content of the paper entering the driers, it remains astounding that the variation in entering moisture content should be so great. It is interesting to note that the average value as well as the better and poorer limiting values for water removal at the presses seem virtually unchanged in the nine years since the earlier report was made. We know improved water extraction equipment has been installed on numerous machines, but perhaps the average benefit has been offset by the increased length of the drier sections and consequent increased speed which makes water extraction at the presses more difficult. Considering the importance of the entering moisture content as it affects drying capacity and drying costs is it not surprising to find the poorer machines have 60% more water to exaporate per pound of paper than the better machines with the same weight and grade of paper?

It may be of interest to have the average data for all the 31 machines reported. This composite average kraft machine has the equivalent of 44 60-inch diameter or 55 48-inch diameter paper driers and 8.6 48-inch felt driers, all 182-inch face width. It would be running at 676 f.p.m. on 87-pound kraft paper using 29 p.s.i. steam pressure, drying paper from 70% entering moisture content to 6% leaving moisture content, evaporating 2.1 pounds water per pound of paper, giving a production drying rate ($R_p$) of 1.08 and an evaporative drying rate ($R_w$) of 2.26.




## Conclusions

In view of the keen attention kraft mill operators in recent years have given to getting the utmost machine production, a closer uniformity from these new data, than has been found, was expected. Reference to the drying rate curves shows the better machines having twice the drying rate of the poorer ones for the same steam pressure, or after correcting for steam pressure having twice the drying rate for the same weight of paper. Obviously there must be other serious factors influencing drying rate besides steam pressure and weight of paper. Though important, these are hard to evaluate. The machine enjoying a high drying rate must have a favorable position with respect to most or all of these factors, whereas the machine with a definitely low drying rate is likely to be suffering an unfavorable condition from most of them. What are some of these other factors?

With respect to the physical proportions of the machine itself doubtless the drying rate is affected by the diameter of the driers, their spacing and arrangement, and the proportion of felt driers. Little seems definitely known of these factors. The condition of drier drainage and especially the removal of air and noncondensable gases from inside the driers is important, and probably accounts to a considerable extent for the wide variation in the drying rates at any given steam pressure. The tightness of the drier felts and the tightness and uniformity of the paper draws are important factors. The smoothness of the sheet as it contributes to intimate contact with the drier surface undoubtedly is highly important. Still other factors are the condition of the inside and outside drier surface, especially the latter.

The ventilation around the machine as it affects the air conditions immediately adjacent to the paper and felts is well known to have a considerable influence on drying rates. The use of special equipment to provide positive ventilation of the drier pockets is known to improve drying capacity.

The entering moisture content has a decided effect on the production drying rate, although little on the evaporative drying rate. The final moisture content to which the paper or board is dried has more effect on drying rate than is commonly realized, not because it has much to do with the total amount of water actually evaporated but because the final moisture removal is at a much reduced drying rate as compared to the average. Even drying across the width of the sheet and good steam control permitting of drying the paper uniformly to only the required dryness allows for higher drying rates. The aim should be to have all these favorable factors acting together.

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# The Behavior of Some Lignin Preparations in the Molecular Still*

By John F. Hechtman[1]


## Abstract

*A brief review is given of the subject of molecular, or short path, distillation and the distinction between this type and ordinary distillation is pointed out. Bailey's application of molecular distillation to a number of lignin preparations aroused interest in the further application of that technique to lignin chemistry. A pot still was designed and constructed so that the "reservoir" and condensing surfaces were removable for weighing to permit the accurate determination of the original sample weight and the amount of residue and distillate. Native lignin, diazomethane-methylated native lignin, completely methylated native lignin, and Willstätter lignin, were treated in the still. At a temperature of 260 deg. C. and a pressure of 1 μ, a condensate amounting to 4% of the original sample was obtained from native lignin. The residue and condensate had the same methoxyl content as the original material. The ultraviolet absorption curves and the solubility characteristics of the materials indicated that the condensate might be of lower and the residue of higher average molecular weight than the starting material. At temperatures of 290 deg. C. and higher, decomposition occurred and was evidenced by the loss of volatile material not condensed on the water-cooled condensing surface. At distilling pressures higher than one micron, a greater amount of condensate was collected but the spectral absorption curves indicated that the material was a decomposition product. A condensate amounting to 6% of the original sample was obtained from diazomethane-methylated native lignin at a temperature of 290 deg. C. and a pressure of 1 μ. The methoxyl contents of condensate and residue were 17.7 and 20.9% compared with 21.1% for the original material. No distillate was obtained from completely methylated native lignin even at temperatures as high as 350 deg. C. with a pressure of 1 μ, although noncondensable material was lost at the highest temperature. Willstätter lignin from black spruce yielded no condensate at temperatures up to 350 deg. C. and a pressure of 1 μ. At the highest temperature a loss of volatile material amounting to only 2% of the original sample was found after 20 hours' treatment. When the treatment was carried out at a pressure of 25 to 50 μ a considerable condensate was obtained at a temperature of 260 deg. C. The methoxyl content of the condensate was 14.0%. When the treatment was carried out at a pressure of 25 to 50 μ in a nitrogen, rather than an air, atmosphere no condensate was obtained at temperatures up to 350 deg. C.*


Molecular distillation may be defined as distillation under such pressure conditions and with such a separation of evaporating and condensing surfaces that a large proportion of the distilling molecules pass from the distilling to the condensing surface without colliding with other molecules.

The expressions "short path distillation" and "molecular distillation" are used synonomously. However, the term "short path distillation" may be somewhat misleading in so far as it suggests that the distilling and condensing surfaces are placed extremely close to each other. Actually this need not be the case. At atmospheric pressure there are about $10^{19}$ molecules in each cc. of a gas. Under these conditions molecules collide so frequently that the mean free path (the average distance molecules travel between collisions) is about 0.0001 mm. A separation of evaporating and condensing surfaces comparable to such a mean free path is completely impractical. As the pressure is reduced, the mean free path increases, and at a pressure of 0.001 mm. of mercury the mean free path may be several cm. Thus, at a reduced pressure, molecular or short path distillation may take place without the use of excessively small distilling gaps, although the distances involved are short compared with those of ordinary distillation.

In 1913, Langmuir *(1)* studied the rate of evaporation of metals in a vacuum so high that the mean free path of the molecules was greater than the distance from the evaporating to the condensing surface. He showed that the rate of distillation is directly proportional to the vapor pressure and inversely proportional to the square root of the molecular weight of the material in question.

The fact that molecular distillation requires a relatively high vacuum is important from the standpoint that the concentration of gases which might be effective in causing decomposition of the distilling material is reduced to a minimum. Molecular distillation lends itself well to the distillation of materials which might undergo serious decomposition if subjected to the concentration of foreign gases typical of ordinary vacuum distillation.

The importance of maintaining a low pressure in the gap between the evaporating and condensing surfaces limits the application of molecular distillation to substances of low vapor pressure at ordinary temperatures and the distillation temperature must be adjusted so that the vapor pressure of the material is comparable to the permissible pressure in the still. Thus, this type of distillation is most easily applicable to high molecular weight materials, the very ones most difficult, if not impossible, to distill nondestructively by ordinary methods.

The effect of a high gap pressure is merely to restrict the passage of molecules to the condensing surface and to reduce the rate of distillation; however, the rate at which molecules leave the distilling surface is independent of the pressure. Once the pressure in the still is such that the effect of collisions is negligible in returning molecules to the evaporating surface, a further reduction in pressure has no effect

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on the rate of distillation, which may be termed the "ideal rate." On the other hand, the lowest possible pressure is desirable in reducing the action of foreign gases. A pressure of about 0.001 mm. of mercury is generally found to be satisfactory in obtaining the maximum rate of distillation and in minimizing the effect of foreign gases on decomposition.

The following discussion serves to contrast the essential principles of molecular distillation with those of ordinary distillation *(2)*.

In molecular distillation a direct transfer of molecules occurs from the evaporating to the condensing surface, and very few molecules return to the distilling surface. Under these conditions there is no equilibrium between vapor and liquid or solid.

In contrast to molecular distillation, there is the case in which the condensing surface is removed from the evaporating surface by a distance much greater than the mean free path of the molecules, thereby permitting at least an approximate equilibrium to exist between vapor and liquid or solid. This is ordinary distillation and under these conditions the rate of distillation is of the order of one-half the ideal rate for the same material at the same temperature. Here, too, the use of a vacuum may have definite advantages in accelerating the rate of distillation at a given temperature, in reducing the temperature of distillation so that decomposition does not occur, or in reducing the concentration of foreign gases which might cause decomposition.

In conventional types of distillation processes, opportunity for condensation and re-evaporation of the vapors occurs, and in fractionating columns special steps are taken to insure repeated condensation and re-evaporation. In this way a greater degree of separation of components is obtained than by one-step evaporation and condensation.

In the case of a mixture in a molecular still, the degree of separation is a function of the respective vapor pressures and molecular weights of the constituents. Theoretically, it is possible by a molecular process to separate, to some extent, a mixture of components having equal vapor pressure and different molecular weights or vice versa. In any case, the degree of separation is the net result of a number of competing rates so that a pure distillate cannot be obtained, and such separation is greatly inferior to that achieved in a good fractionating column.

In 1920, Brönsted and Hevesy *(3)* effected the separation of the isotopes of mercury by distilling at a low pressure and condensing the distillate on a cold surface placed near the evaporating surface. Burch was one of the first to apply this new vacuum-technique of distillation to organic substances *(4)*, and holds the basic patents *(5)* on the design of stills for handling these substances. His early work was applied to organic substances in general, with particular emphasis upon petroleum and its derivatives. Simultaneously with Burch, Hickman *(6)* and Washburn *(7)* independently applied molecular distillation to the treatment of sundry phthalates, stearates, oleates, citrates, tricresyl phosphates, paraffin wax, and cane sugar.

Hickman and Burch have been outstanding in finding commercial applications of molecular distillation, and hold numerous patents for the design and improvement of commercial high-vacuum equipment, as well as equipment suitable for research in this field. Hickman has used molecular distillation extensively in the isolation and identification of vitamins from fish oils *(8)* and also for the isolation of sterols and steroids from animal and vegetable oils *(9)*. He also has worked out a system of analytical distillation which enables one to determine with some certainty the relative boiling points of two or more constituents, to estimate qualitatively their heats of vaporization and, in the case of supposedly single substances, to pass judgment on their purity *(10)*. His analyses make use of the rate of elimination or distillation of the substance in question. Embree *(11)* has discussed the theory of these analytical distillations.

Carothers *(12)* has made use of molecular distillation as a means of propagating chemical reactions. He found that molecular distillation is effective in removing high molecular weight reaction products from polymerization reactions. By the removal of these materials the degree of polymerization is increased.

Bailey *(13)* has used molecular distillation in an attempt to show the heterogeneity of lignin. He distilled so-called hardwood and softwood butanol lignins, commercial lignosulphonic acid, hydrochloric acid lignin, and cuprammonium lignin and obtained distillates having methoxyl contents differing from those of the starting materials. He stated that distillation took place at a temperature of 200-220 deg. C. and a pressure of $10^{-3}$ to $10^{-6}$ mm. of mercury. Above a temperature of 220 deg. C. a violent gaseous decomposition occurred. An attempt to distill lignin directly from wood was unsuccessful. From this he concluded that lignin is changed by the process of isolation from wood.

Bailey's work has aroused interest in the application of molecular distillation to the field of lignin chemistry. This interest is due to the fact that molecular distillation is a relatively new technique which may be applied to the study of lignin.

There has been considerable discussion in the literature in regard to the changes lignin undergoes upon isolation from wood. Some investigators believe that lignin is present in wood as relatively simple compounds and that these compounds are condensed, polymerized, or otherwise considerably changed by the action of the reagents necessary for its isolation.

The work of Hibbert and McCarthy *(14)* has shown that simple compounds, which may be considered as lignin building stones, are obtained from lignin by the relatively mild treatment of ethanolysis. Even though it should prove impossible to distill lignin unchanged, it is possible that molecular distillation might yield products even more closely related to lignin than the compounds obtained by Hibbert and McCarthy.

Native lignin *(15)* should be the most desirable preparation for an initial study of molecular distillation because it is more closely related to the lignin in wood than any other lignin preparation. It should be the lignin most likely to distill, because its greater solubility characteristics indicate that it may have a lower molecular weight than other lignins.

### Description of Apparatus

Figure 1 is a cross section of the glass-metal pot still which was developed to meet the requirements of this investigation. A 6-inch brass pipe was used in constructing the outer case of the still. The top flange and the bottom of the still were made from ¼-inch brass plate. A Pyrex desiccator lid served as the top. The condenser wall was made from 3½-inch

brass pipe and 3/16-inch brass plates form the top and bottom. Two concentric copper tubes provide the water inlet and outlet for the condenser. The outer tube acts as a support for the condenser and is sealed in the top of the desiccator by means of a rubber stopper. Both the condensing and distilling dishes (A and B) were made of 20-gage copper; after being formed in the shape of a flat-bottomed dish, they were chromium plated and polished. The condensing dish is held in contact with the condenser by means of three springs extending over the top of the condenser. Uniform heating of the distilling dish is provided by placing it on a ¼-inch aluminum block (C). The aluminum block is heated by an electrical heater (D) and is electrically insulated from the heater wires by a thin sheet of mica. The heater was constructed by winding about 3 ft. of no. 26 B. and S. gage chromel "A" resistance wire on three sheets of mica. The aluminum block and the heater are held together by screws attached to a thin brass plate (E). A piece of Pyrex tubing acts as a thermal insulating support for the entire heating assembly. A Pirani gage is connected to the still at F and is placed directly opposite the vacuum pump connection (G). This arrangement is absolutely necessary to insure a true measure of the distilling pressure. The temperature of the heating block was determined by means of a chromel-alumel thermocouple inserted in the center of the aluminum block. The thermocouple and heater leads were sealed and insulated in the brass case with sealing wax.

Figure 2 is a photograph of the complete apparatus with the exception of the vacuum pumps which consist of an oil-diffusion pump backed by a Cenco Megavac pump. The oil-diffusion pump was of the glass-metal type. It yields an ultimate vacuum of $10^{-5}$ mm. of mercury and has a pumping speed of 220 l./sec. at a pressure of $10^{-4}$ mm.

An alternating current ammeter having a range from 0 to 5 amperes was used to measure the heater current. The thermocouple current is measured by means of a Weston type-440 galvanometer. The thermocouple was calibrated against a mercury thermometer and the temperature may be read to within ± 4 deg. C. The distilling temperature is not necessarily the temperature determined by the thermocouple. In this particular still the deviation of the distilling temperature from that of the aluminum block was determined by observing the melting points of salts placed on the distilling surface. At a temperature of 190 deg. C. as determined by the thermocouple, the distilling surface temperature was 185 deg. C., and at 260 deg. C. the distilling surface temperature was 253 deg. C.

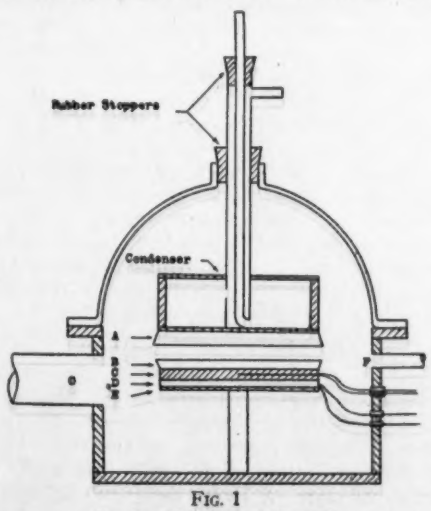


FIG. 1
Details of Glass-Metal Pot Still

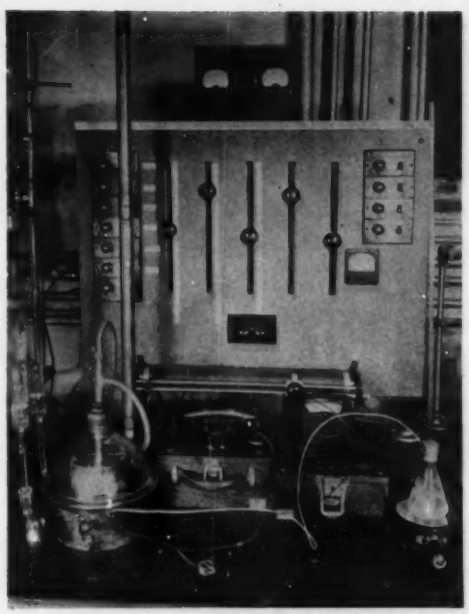

FIG. 2
Glass-Metal Pot Still

This still has several advantages over the usual pot still: (1) The condensing and distilling surfaces may be accurately weighed. (2) There is a continuous stream of water through the condenser and the still may be left to operate unattended for a long period of time. (3) In the experiments performed, practically all of the distillate is collected by the condensing surface. (4) A better measure of the actual distilling temperature is obtained.

## Methods and Materials

The methods which are available for the study and classification or identification of lignin, lignin derivatives, and lignin products are few. A determination of the methoxyl content of lignin and related compounds is one of the few methods which is commonly used. In recent years, the ultraviolet absorption spectra has been an aid in studying these materials.

The amount of distillate obtained from the molecular distillation of lignin and some of its derivatives was very small. Fortunately, the two methods of identification mentioned above require only small amounts of material. Methoxyl determinations were by a micro method and ultraviolet absorption spectra were determined by the method used by Glading *(16)*.

A sample of black spruce native lignin, prepared according to the method of Brauns *(15)* and having a methoxyl content of 14.8%, was available. Diazomethane-methylated native lignin (21.4% methoxyl) and completely methylated native lignin (31.4% methoxyl) prepared according to the method of Brauns *(15)* were also available. Willstätter lignin

was prepared from black spruce by the directions given by Kalb and Lieser *(17)*. The product had a methoxyl content of 15.5%.

### Distillation of Native Lignin

The following factors were studied in connection with the distillation of native lignin.

*Effect of Temperature upon Distillation:* Native lignin begins to distill at temperatures as low as 185 deg. C. The lignin shows signs of melting even at this low temperature. The amount of distillate increases up to about 260 deg. C., at which temperature the weight of the distillate is about 4% of the original sample weight. Above 260 deg. C. no more distillate is collected, but there are losses in weight from the distilling dish that cannot be accounted for. Even at temperatures as high as 350 deg. C. the rate of decomposition is so slow as to cause no noticeable rise in the distilling pressure.

*Effect of Time of Distillation:* A critical study of this factor was not made; however, the time required for complete distillation is dependent upon the size of the sample and its distribution on the distilling surface. The minimum time for distillation was not determined; however, at the end of 18 or 20 hours, distillation is complete using 0.05 to 0.10 gram samples.

*Effect of Quantity of Sample:* Samples ranging in size from 0.025 to 0.30 gram were subjected to distillation. It was found much easier to distribute the smaller samples uniformly on the distilling surface, and these samples also gave the highest yields. A sample between 0.05 and 0.10 gram was found to be of optimum size.

*Effect of Surface Condition:* The residue from a distillation at 260 deg. C. was dissolved in dioxane, reprecipitated in ether, dried, and again distilled at 260 deg. C. No distillate was obtained in the second case. This fact demonstrates to some degree that distillation from the lignin is complete and uniform. An attempt to increase the effective distilling surface was made by dissolving the lignin in dioxane, spreading a layer of solution on the distilling surface, and evaporating to dryness. However, this treatment did not increase the percentage of distillate.

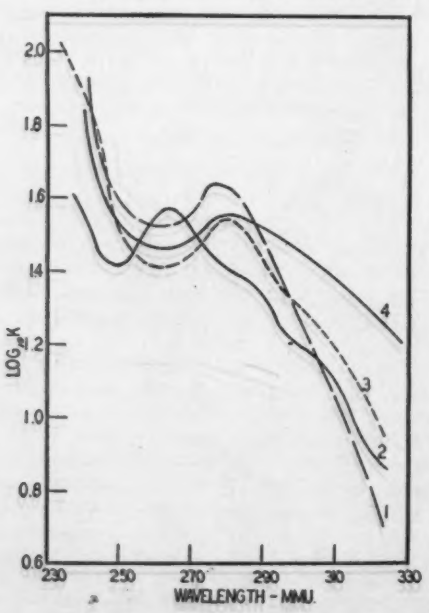


Fig. 3

**Absorption Spectra of Native Lignin and Its Distillation Products. 1. Native Lignin. 2. Distillate at 260 Deg. C. and One Micron Pressure. 3. Residue at 260 Deg. C. and One Micron Pressure. 4. Residue at 350 Deg. C. and one Micron Pressure**

*Effect of Pressure:* It was observed in some preliminary work that, when the distilling pressure was high, the yield of distillate was greatly increased. At a pressure of 180 $\mu$ and a temperature of 300 deg. C., about 32% of the lignin distilled and collected on the condensing surface; however, about 15% was lost as uncondensable material.

*Effect of Oxygen:* In view of the increased amounts of distillate collected when the distilling pressure was higher than 1 $\mu$, it is possible that the distillate obtained even under the best conditions of pressure may be an oxidation product. The still was surrounded with a rubber-dam bag which was kept inflated with oxygen-free and moisture-free nitrogen to eliminate the entrance of oxygen through leaks in the still. The still was evacuated and flushed several times with purified nitrogen to remove occluded gases. Distillation was carried out at a temperature of 260 deg. C. and a pressure of less than 1 $\mu$. The same yield of distillate was obtained as under similar conditions without taking precautions for the exclusion of oxygen.

The maximum yield of distillate from native lignin at a pressure of 1 $\mu$ is obtained at a temperature of 260 deg. C. and amounts to about 4%. Both the residue and distillate have the same methoxyl content as the starting material. The distillate is soluble in dioxane, ether, 95% ethanol, and acetone; it is insoluble in water. The residue is soluble in dioxane; however, it does not dissolve as readily as the original native lignin. Both the distillate and residue give the typical phloroglucinol test, as does native lignin. The ultraviolet absorption curves for these materials are shown in Fig. 3.

At a temperature of 290 deg. C. and above and at a pressure of less than one micron, native lignin begins to decompose slowly. When held at a temperature of 350 deg. C. for 20 hours, about 16% of the native lignin was lost as uncondensable material. The methoxyl content of the residue was 12.4%. The residue was no longer soluble in dioxane but was soluble in 10% sodium hydroxide. Upon reprecipitation from the alkaline solution with acid, the residue was soluble in dioxane. The ultraviolet absorption curve of this material is shown in Fig. 3.

The yield of distillate obtained from native lignin when distilled at higher pressures is much greater than that obtained at a pressure of 1 $\mu$. At 180 $\mu$ pressure and 300 deg. C., 32% of the lignin distills; however, about 15% of the lignin could not be accounted for, and the residue appeared to be carbonaceous material. The distillate had a methoxyl content of 14.9%. The ultraviolet absorption curve of the distillate is shown in Fig. 4, Curve 1. The distillate had a distinct odor of vanillin; however, attempts to isolate this compound were unsuccessful.

The amount of distillate obtained from native lignin when oxygen was excluded was the same as that obtained under ordinary conditions at a pressure of one micron or less. The ultraviolet absorption curve of the material is shown in Fig. 4, Curve 3, and is identical with that obtained when no precautions were taken to eliminate oxygen from the still.

### Distillation of Diazomethane-Methylated Native Lignin

Diazomethane-methylated native lignin was found to distill to the extent of about 6% at a pressure of less than one micron and a temperature of 290 deg. C. No distillate could be obtained below this temperature, and no additional distillate was collected on increasing the temperature. Upon heating for 20 hours at 350 deg. C., the material decomposed much less than did native lignin. In addition, the residue partially melted and spread more profusely than native lignin. The methoxyl content of the distillate was 17.7% and that of the residue at 290 deg. C., was 20.9% instead of 21.4% as in the original material. The residue gave only a slight phloroglucinol test, whereas the distillate gave the typical test. Figure 5 shows the absorption curves for these materials and a curve obtained by Glading *(15)* for diazomethane-methylated native lignin.

### Distillation of Completely Methylated Native Lignin

No distillate could be obtained from this material even at temperatures as high at 350 deg. C. and a distilling pressure of less than one micron; however, the material did decompose to the extent of about 11% when heated over a period of 80 hours.

### Distillation of Willstätter Lignin

Willstätter lignin was subjected to distillation at a pressure of 1 $\mu$ or less and over a temperature range of 200 to 350 deg. C. at temperature intervals of 30 deg. Each distillation was carried out for a period of about 20 hours. No distillation occurred, and there was a loss of only about 2% from the residue, which showed no signs of discoloration or decomposition.

When distillation was carried out at a pressure of 25 to 50 microns and a temperature of 265 deg. C. considerable distillate was obtained. The distillate was soluble in dioxane, gave a distinct phloroglucinol test, and had a strong odor of vanillin. The methoxyl content of the distillate was 14%. The methoxyl content of this material seems to agree fairly well with that of the distillate Bailey obtained from Willstätter lignin. Figure 4, Curve 2, shows the ultraviolet absorption curve of this material. This experiment was repeated at a higher temperature to determine the ultimate amount of distillate that could be obtained. At a pressure of 0.75 mm. of mercury and a temperature of 300 deg. C., 15% of the lignin distilled and about 19% was lost. The distillation required about 80 hours, and at the end of this time the residue appeared to be carbon.

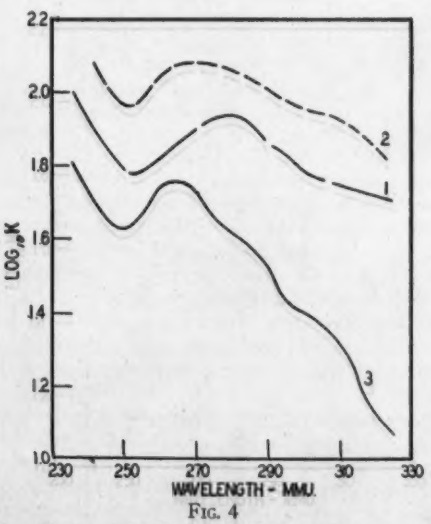


Fig. 4

Absorption Spectra of Distillation Products of Lignin. 1. Native Lignin at 300 Deg. C. and 180 Microns Pressure. 2. Willstätter Lignin at 265 Deg. C. and 25-50 Microns Pressure. 3. Distillate of Native Lignin at 260 Deg. C. and One Micron Pressure, Nitrogen Atmosphere

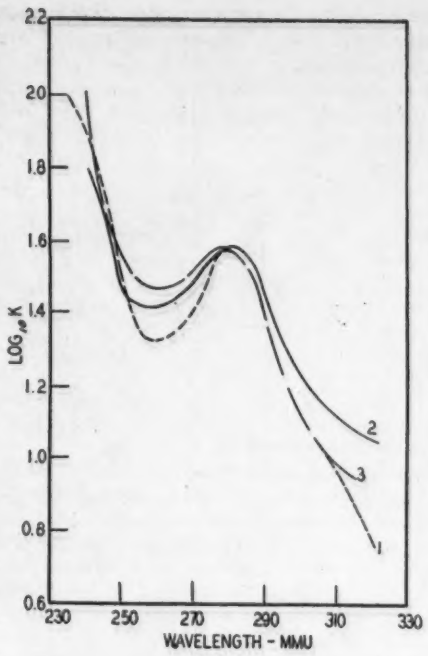


Fig. 5

Absorption Spectra of Diazomethane-Methylated Native Lignin and Its Distillation Products. 1. Diazomethane-Methylated Native Lignin. 2. Distillate at 290 Deg. C. and One Micron Pressure. 3. Residue at 290 Deg. C. and one Micron Pressure

In order to determine whether oxygen was responsible for the distillation of Willstätter lignin at the higher pressure, a distillation was carried out at 25 to 50 $\mu$ pressure in a nitrogen atmosphere. No distillation resulted.

## Discussion

At a pressure of less than one micron and a temperature of 260 deg. C. native lignin distills to the extent of about 4%. The distillate obtained is identical, as shown by the absorption curves, with that obtained when oxygen is excluded as completely as possible. The curve for these materials is substantially different from that obtained by distilling at a higher pressure (Fig. 4, Curve 1). The product obtained in the latter case is apparently the result of oxidation. The distillate obtained at the lowest pressure is not a distillation product in the true sense of the word. This is evidenced by the fact that it is soluble in ether, whereas the original material is insoluble. In addition, the original native lignin absorption curve cannot be reconstructed from the absorption curves of the distillate and residue. In view of this, the distillate must be a product arising from a thermally induced change in the lignin. Herzog and Hilmer *(18)* showed that when coniferyl alcohol is polymerized, the maximum and minimum of the ultraviolet absorption spectrum of the poly-

merized product appear at longer wave lengths than for coniferyl alcohol. The general shape of the ultraviolet absorption curve of the polymerized product agrees fairly well with that of lignosulphonic acid. The shift in the maximum and minimum of the absorption curve of the distillate relative to those of the original native lignin (Fig. 3), its increased solubility characteristics, and the fact that it has the same methoxyl content as native lignin are some of the characteristics that a lower polymer of lignin might possess. The increased resistance of the residue to solution in dioxane gives some indication that this may be a higher polymer of native lignin. These facts help to explain why only a limited amount of native lignin distills, if one assumes that heating promotes both polymerization and depolymerization of the native lignin and that the polymerization products are so changed as to yield no more depolymerization products upon reheating.

The absorption curves for the distillate and residue of diazomethane-methylated native lignin do not behave in the same manner as those of native lignin. There is only a slight shift or broadening of the minimum of the distillate (Fig. 5). In this case there is a loss of methoxyl content that cannot be accounted for. The distillate had a methoxyl content of 17.7% and the residue 20.9%, whereas the starting material had a methoxyl content of 21.4%. It cannot be decided whether the distillate is a polymer or a degradation product of the original material.

Under the best conditions of pressure, Willstätter lignin does not distill and even on increasing the temperature to 350 deg. C., it shows little evidence of decomposition. This is contradictory to the observation made by Bailey. He found that this lignin preparation distilled at temperatures as low as 200 to 210 deg. C. and a pressure of less than one micron and that at 220 deg. C. a violent decomposition occurred which resulted in a sharp rise in the distilling pressure.

When distillation was carried out at a higher pressure and a temperature of 265 deg. C., Willstätter lignin distilled. The fact that it does not distill at higher pressures in the presence of nitrogen shows that oxygen is responsible for the distillation. The distillate obtained at higher pressures has a methoxyl content of 14.0%, whereas Bailey found 13.6%. It may be that Bailey's pressure measurements were not made in the still proper, but were taken at a point between the still and the vacuum pump. Hickman has stressed the importance in molecular distillation of measuring the distilling pressure at a point nearest the distilling gap and farthest from the exhaust port. Thus, if Bailey's actual distilling pressures were higher than reported his results may be considered to agree with those reported above for distillation in the presence of oxygen.

Native lignin, the distillates from native lignin, the distillate of Willstätter lignin, and methylated lignin and its distillate have generally similar ultraviolet absorption curves. All the distillates show a shifting of the maximum and minimum of their absorption curves to shorter wavelengths as compared with the curve of native lignin; there is a marked degree of similarity in the general shapes of the curves with the exception of the magnitudes of the absorption coefficients. The fact that these distillates were obtained, their increased solubility as compared with the original materials, and the general similarity of the absorption curves for both distillate and original material suggest that the distillates are lower molecular weight products closely related to the initial preparations.

The limited amount of distillate obtained from native lignin under the best conditions of pressure has precluded a detailed chemical analysis of the product; however, a study of the products obtained from distillation at higher pressures than those required for ideal molecular distillation should prove both valuable and interesting from the standpoint of the constitution of lignin.

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### Additional Information

While this paper was in press, another paper was published by Bailey (*Ind. Eng. Chem., Anal. Ed.* 14:177-178 (1942)) in which he stated that his pressures were measured by a McLeod gage connected directly to the diffusion pump. Thus, the actual pressures in the distilling gap were higher than the values he quoted and his product corresponds to that reported here for distillation at the higher pressures.

## Packaging Meeting Announcement

A conference will be held at 10 a. m. Thursday, June 4, in Private Dining Room No. 2 (third floor) of the Stevens Hotel, Chicago, Ill. for technical men who have had experience in packaging (dehydrated and other forms of foods, in particular) and who have laboratory equipment suitable for testing small containers.

Such laboratories should have provision for conditioning containers at 95% R. H. and be equipped for the moisture vapor transmission test.

This meeting is being called to assist the Subsistence Research Laboratory of the U. S. Quartermasters Corps in its important work of developing the various army ration packages.

The morning session will be devoted to a presentation by officers of the Quartermasters Corps of the paper package problems of that organization. In the afternoon there will be personal interviews with those who feel that they are in a position to cooperate with the Subsistence Laboratory in making tests in their mill laboratories.

The facilities of the Subsistence Laboratory are not adequate to do the amount of testing that needs to be done.

Other tests that may need to be done by cooperating laboratories include grease absorption, impact test, the tumbling test and the water immersion test.

Those planning to attend should notify R. G. Macdonald, Secretary, Technical Association of the Pulp and Paper Industry, c/o Stevens Hotel, Chicago, Ill. by June 3.

## Imports of Paper and Paper Stock

**Importers may have their shipments listed in these columns by submitting records of importers to this publication.**

### NEW YORK IMPORTS

WEEK ENDING MAY 23, 1942

SUMMARY

Newsprint ..... 3,706 rolls

NEWSPRINT

——, ——, ——, 2628 rolls.
——, ——, ——, 340 rolls.
——, ——, ——, 338 rolls.
——, ——, ——, 400 rolls.

RAGS, BAGGINGS, ETC.

——, ——, ——, 60 bls. cotton residue.

BONES

——, ——, ——, 4427 bags.

## Paper Demand Less Heavy

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 25, 1942 — The paper situation here remains practically unchanged from last week with manufacturers and jobbers generally getting most of their requirements. Demand in some lines, due to war conditions is not as heavy as they were a year ago, which probably accounts for the fact that deliveries are possible in these lines.

Paper box and container factories are working virtually to capacity and those with priority ratings are having no trouble with their raw materials. Most of the central Indiana plants have war orders of various descriptions, either directly concerned with the armed services or with companies supplying defense supplies in this territory. Waxed paper containers are in good demand, but the demand from the dairy and ice cream trade is slow.

Demand for summer specialties continued slow, due to adverse weather conditions. Early dealer demand was good and some nice deals were concluded, according to local jobbers. However, the dealers have been unable to move their original stocks.

Newsprint demand was only fair. There is a likelihood that the summer demand will be considerably lower than a year ago. Some of the smaller dailies are being hurt seriously by the slump in national advertising and in some cases they are suspending one edition a week, generally the Saturday edition where no Sunday paper is published.

Building paper demand and roofing is good considering general building conditions. Building permits from this area are below those of last year, due largely to war conditions.

Buying of old rags continued good last week with cuttings and roofing rags in good demand and prices firm. In the waste paper field, the conservation movement has resulted in loaded local warehouses. Mill demand is none too active and sales to some extent are below ceiling prices fixed by the government.

## Super Standard Kraft

On page 50 of the May 21st issue of PAPER TRADE JOURNAL the top line of the advertisement of Filer Fibre Co. of Filer City, Michigan, should have read Super Standard Kraft Pulp and Paper.

## Farrel-Birmingham Get Navy E

In recognition of excellence in the production of gear drives for Navy ships, the three plants of Farrel-Birmingham Company, Inc., at Ansonia and Derby, Conn., and Buffalo, N. Y., have been awarded the "E", traditional Navy symbol for a job well done.

Presentation of the award was made by Rear Admiral Henry A. Wiley, U. S. N. (Ret.), Chairman of the Navy board for produtcion awards, and was accepted on behalf of the company by A. G. Kessler, vice president and general manager of the Buffalo plant. On behalf of all employees, William Shea, veteran employee of 62 years' service, received the Navy "E" lapel emblem from Commander Robert S. Smith, Jr., U. S. N.

Among others at the presentation ceremonies on May 10, were: A. G. Kessler; Captain L. F. Small; Karr Parker, president of Buffalo Chamber of Commerce and chairman of the presentation ceremonies; C. Wayland Brooks, United States Senator from Illinois, principal speaker of the occasion; Commander Robert S. Smith, Jr.; Lieutenant Commander William J. Connors; Captain Frederick L. Oliver, Inspector of Naval Material, Pittsburgh district; William Shea and Rear Admiral Henry A. Wiley.

## N. E. Paper Men Hold Outing

BOSTON, Mass., May 25, 1942—Despite gas rationing and intermittent showers, members and guests of the New England Paper Merchants Association played golf at their Annual Spring Outing, held at historic Oakley Country Club, Watertown, Mass., on the afternoon of May 18.

In the evening an enjoyable dinner was served. Moving pictures produced by the New England Telephone and Telegraph Company for the entertainment and instruction of telephone users were shown by H. M. Hook, manager of the Waltham area of the telephone company.

A bouquet of flowers was sent to William J. McLellan, chairman of the 1941 outing committee, who is confined to the Newton Hospital.

## Boston Paper Men to Hold Outing

BOSTON, Mass., May 25, 1942—The regular June meeting and outing of the Boston Paper Trade Association is to be held June 8 at the Charles River Country Club, Newton Centre, Mass. Golf will be played all day and the other outdoor sports in the afternoon. A buffet luncheon will be served at the Club House from 11:30 a. m. on. Dinner will be served at 6 p. m., after which the prize winners will receive their awards, all of which, while of the same value as in former years, will be War Defense Bonds and Savings Stamps.

## Automobile Tires of Paper!

Norman Applegate, an engineer for the Riegel Paper Corporation, Milford, N. J., has equipped his automobile with two experimental tires made from paper at the mill, and is now testing out the feasibility and practicability of tires of this character. The tires, somewhat resembling rubber in appearance, have been treated against wear and weather conditions, but in the present experimental stage are said to be less flexible than those made of rubber.

# New York Paper and Pulp Market Review

## Paper Market Easier As Trend In Civilian Buying Is Slowly Declining—Good Grades of Pulp Scarce—Oversupply In No. 1 Mixed Paper Slows Up Trading In This Grade—Roofing Rags Are Active.

Office of the PAPER TRADE JOURNAL
Wednesday, May 27, 1942.

The trend to a generally lower civilian demand and consumption of many types of paper and paper products, is again indicated this week in reports received from some manufacturers' representatives, jobbers, and general paper merchants.

The announcement of an impending ceiling on inventories is one of the major topics being discussed in the paper market this week, although no definite stipulations of a restrictive nature have been issued by the government. Reports indicate that this "Distributors' Inventory Limitation Order 1," will include both manufacturers and distributors. Food and food products and products whose inventory on March 31, 1942 was less than $20,000 at current cost, excepting distributing units of chain stores, are exempted. The stated objective of this regulation is to establish a well balanced supply of all goods. Naturally, its most important application will be in materials and products which are or may become scarce.

The announcement by the War Production Board said in part that, a wholesaler or retailer whose inventory "shows excess in one or more lines will be prevented from purchasing other lines which he may wish to replenish. It was also pointed out that Priorities Regulation No. 1. issued last Fall, will be enforced. This order prohibits the accumulation of inventories "beyond a practicable working minimum."

The index of general business activity for the week ended May 16 was unchanged from the preceding week at 132.6%, compared with 127.9% for the corresponding week last year. Paper board production was 4.8% higher.

Paper production for the week ended May 16 was estimated at 97.3%, compared with 98.6% for 1941, with 91.7% for 1940, with 81.3% for 1939, and with 69.7% for the corresponding week for 1938.

Paper board production for the week ended May 16 was 82.0%, compared with 84.0% for 1941, with 76.0% for 1940, with 65.0% for 1939, and with 58.0% for the corresponding week for 1938.

Demand for paper continues good in many lines, averaging around the level of last year at this date, with writing paper above and some grades of book paper below the 1941 level. A decline in orders and shipments from the current level is indicated in reports from several quarters and this trend is expected to be continued at a slower rate in the future. Kraft sack paper continues in a strong position, because of the heavy demand for this grade for a wide utilization to replace jute and other scarce bagging material.

### Wood Pulp

Demand for all grades of sulphite pulp is strong, with prime grades scarce. Under the Amendment No. 1. issued May 15 by the OPA, manufacturers are permitted to base ceilings on a price f.o.b. producer's mill, on sales to persons other than consumers, or their vendors. The original Maximum Price Regulation No. 114, established maximum prices at the point where wood pulp is delivered to a consumer mill.

### Rags

Mill buying of cotton cuttings is less active at this date, reported in some quarters as based upon the declining trend in the volume of consumer goods and, therefore, softening of current prices.

Demand for mixed rags is moderate to good. Roofing rags are active, with ceiling prices firmly maintained.

### Old Rope and Bagging

Trading in old No. 1 Manila rope is steady, with all supplies readily taken by mills.

Demand for scrap bagging is less active this week, pending determination by many dealers of the effect of the General Maximum Price Regulation.

### Old Waste Paper

The waste paper market is slow and prices are soft, as the oversupply situation continues to be serious in No. 1 mixed paper.

Licensing of waste paper and scrap metal dealers is required under Supplementary Order No. 5. Dealers are required to register with the OPA before June 20, 1942. The OPA announced on May 19 that forms would be mailed to dealers during that week. Registration statements are to be mailed to the Bureau of Census, Washington, D. C., which is acting as agent for the OPA.

### Twine

The scarcity of imported fibers steadily continues more serious, especially in Manila twine, the manufacture of which has been discontinued, while the importations of all hard fiber twines are encouraged under easier regulations. Prices are firmly maintained and are now determined by the General Maximum Price Regulation.

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## OPA Rules on Crepe Paper

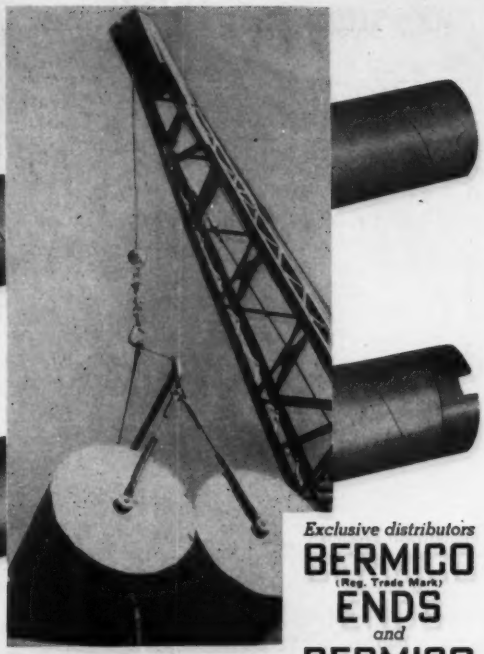
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 25, 1942—Maximum prices for the wholesale and retail sale of single-weight, unprinted crepe paper in folds of 9 ft. by 20 in. are the same under the General Maximum Price Regulation as the wholesale and retail prices for it in folds of 10 ft. by 20 in. during March, 1942, Price Administrator Leon Henderson announced today.

The latter size was reduced early this year as part of the general program of conservation of paper ordered by the War Production Board. Although the change in size effects considerable conservation the manufacturing costs and the general serviceability to the consumer are practically unaltered.

The maximum price determination applies to the above single-weight crepe paper in 9 ft. by 20 in folds having ratios of 2¼ to 1, 2½ to 1 and 2 to 1.

# Sonoco PAPER MILL CORES



For all uses that require an extremely tough, strong, durable product, SONOCO has developed the new RHINO non-returnable paper mill core. Exhaustive tests for breaking and crushing strength and all around toughness indicate its superior qualities.

## Returnable Cores

Equipped With

**BERMICO Metal Ends**

*DURO* is a standard core of plus-standard quality. Made from our own especially manufactured paper stock. DURO cores are made standard 3⅛" I. D. These cores are equipped with BERMICO open or closed notch, metal ends to fit 3" shaft. TAYLOR Ends that protect inside of core only, can also be specified.

*EN-DURO* a super-quality core to meet extra demands for strength and service where needed. This is our highest grade core. All cores will take either BERMICO or TAYLOR Ends which can be furnished lacquered in various colors for easy identification... Both DURO and EN-DURO cores have a thick kraft surface cover.

RHINO NON-RETURNABLE

sonoco PAPER CARRIERS

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

SHIPPING POINTS: LOWELL, MASS. HARTSVILLE, S. C.

DEPENDABLE SOURCE OF SUPPLY

*Exclusive distributors*

**BERMICO** (Reg. Trade Mark) **ENDS** *and* **BERMICO** (Reg. Trade Mark) **FIBRE CORES**

Strong cellulose fibers are formed into a homogeneous tube and then especially treated to resist all weather and moisture changes. The Bermico Core is light in weight and extremely hard, strong, rugged. These particular cores have exceptionally long life in either returnable or mill roll service.

# • HOW TO INCREASE FREENESS IN REJECTS REFINING

## BAUER DOUBLE-DISC PULPER OVERCOMES "SLOWNESS," CONSERVES MATERIAL

Here's what happened in a southern mill making wrapping paper and board:

This mill wanted to refine all pulp mill rejects and include them in the board furnish. Jordaning was out since the stock produced was too slow, resulting in loss of production.

The Bauer double-disc pulper, however, did the job with two important results: 1) the screen rejects were fiberized with freeness high enough to maintain high machine speed. 2) the product was better both in appearance and quality due to elimination of practically all large shives and flour.

Can Bauer pulpers help you on your furnishes? Find out by writing for details.

*The* BAUER BROS. CO.

SPRINGFIELD, OHIO

## MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL
Wednesday, May 27, 1942.

BLANC FIXE—Prices on blanc fixe are firm and unchanged and conform to prevailing market levels. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton, f.o.b., works. Demand reported good for the week.

BLEACHING POWDER—Quotations on bleaching powder are firm. Demand reported good for the week. Bleaching powder is currently quoted at $2.25 per 100 pounds, in drums, at works.

CASEIN—Prices on casein are unchanged for the current week. Standard domestic casein, 20-30 mesh, is currently quoted at 21 cents per pound; 80-100 mesh, at 21½ cents per pound. All prices in bags, car lots. Argentina casein, 20-30 mesh, is currently offered at 16½ cents per pound, c.i.f. No quotations on French casein.

CAUSTIC SODA—Quotations on caustic soda are firm and continue unchanged at prevailing market prices. Demand reported good. Solid caustic soda is currently quoted at $2.30 per 100 pounds; flake and ground at $2.70 per 100 pounds, in drums, car lots, at works.

CHINA CLAY—Prices on china clay are firm and conform to prevailing market levels. Demand reported moderate at this date. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is currently offered at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine are firm and unchanged. Government and industrial demand is reported heavy during the current week. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The rosin market is reported firm for the week with varying prices on some grades. "G" gum rosin is currently quoted at $2.80 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $2.65 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $3.20 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand good for the current week. Domestic salt cake is currently quoted at $15 per ton, in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. The quotation of $16 per ton imported salt cake is nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market levels. Demand reported good for the week. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are firm and are reported unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds. All prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina. Demand reported moderate for the current week. The commercial grades are currently quoted at from $1.15 to $1.25; iron free at from $1.75 to $1.85 per 100 pounds. All prices in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and conform to prevailing market levels. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $18 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mines. No quotations on imported talc.

## MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

### Paper

(Delivered New York)

| | | | |
|---|---|---|---|
| **News, per ton—** | | | |
| Roll, contract | $50.00 | @ | — |
| Sheets | 58.00 | " | — |
| **Kraft—per cwt.—Carload Quantities** | | | |
| * Delivered Prices | | | |
| Extra Quality | $6.00 | @ | $7.00 |
| Superstandard | 5.25 | " | 6.25 |
| * No. 1 Wrapping | 5.00 | " | — |
| * Standard Bag | 4.37½ | " | — |
| **Tissues—Per Ream—Carlots** | | | |
| White No. 1 | 1.12½ | " | — |
| White No. 1 M. G. | 1.05 | " | — |
| White No. 1½ | 1.00 | " | — |
| White No. 2 | 1.00 | " | — |
| Anti-Tarnish M. G. | .95 | " | — |
| Colored | — | " | — |
| Kraft | .95 | " | — |
| Manila | .90 | " | — |
| Unbl. Toilet, 1 M. | 4.16 | " | — |
| Bleached Toilet | 5.70 | " | — |
| **Paper Towels, Per Case** | | | |
| Unbleached, Jr. | 2.35 | " | — |
| Bleached, Jr. | 2.65 | " | — |
| **Manila—per cwt.—C. l. f. a.** | | | |
| No. 1 Jute | 8.75 | @ | 10.75 |
| No. 1 Manila Wrapping, 35 lb. | 5.50 | " | 5.75 |
| No. 2 Manila Wrapping, 35 lb. | 5.25 | " | 5.50 |
| **Boards, per ton—** | | | |
| News | *48.00 | @ | — |
| Chip | *45.00 | " | — |
| Spl. Mla. Ll. Chip | *60.00 | " | — |
| White Pat. Coated | *75.00 | " | — |
| Kraft Liners 50 lb. | *60.00 | " | — |
| Binders Boards | 84.00 | " | 116.00 |

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

**The following are representative of distributors' resale prices:**

**Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:**

| | Bonds | | Ledgers | |
|---|---|---|---|---|
| 100% Rag Ext. No. 1 | $40.25 | @ $47.25 | $41.40 | @ $48.50 |
| 100% Rag | 32.20 | " 37.75 | 33.35 | " 39.25 |
| 85% Rag | .... | " .... | 32.20 | " 37.75 |
| 75% Rag | 24.75 | " 29.00 | 25.90 | " 30.50 |
| 65% Rag | .... | " .... | 22.80 | " 27.75 |
| 50% Rag | 18.70 | " 22.75 | 19.90 | " 24.25 |
| 25% Rag | 16.40 | " 20.00 | 17.55 | " 21.50 |

Colors at $1.00 cwt. extra.

**Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:**

| | Bonds | | Ledgers | |
|---|---|---|---|---|
| No. 1 | $10.55 | @ $12.75 | $11.70 | @ $14.25 |
| No. 2 | 9.65 | " 11.75 | 10.80 | " 13.25 |
| No. 3 | 9.20 | " 11.25 | 10.35 | " 12.50 |
| No. 4 | 8.90 | " 10.75 | 10.05 | " 12.25 |

Colors $1.00 cwt. extra.

**Free Sheet Book Papers—White, Cased Paper.**

**Delivered in Zone 1:**

| | | | |
|---|---|---|---|
| No. 1 Glossy Coated | $13.65 | @ | $15.50 |
| No. 2 Glossy Coated | 12.40 | " | 14.00 |
| No. 3 Glossy Coated | 11.60 | " | 13.25 |
| No. 4 Glossy Coated | 11.15 | " | 12.75 |
| No. 1 Antique (watermarked) | 10.25 | " | 11.75 |
| No. 2 Offset | 9.60 | " | 11.00 |
| A Grade E. F. | 9.35 | " | 10.75 |
| A Grade S. & S. C. | 9.60 | " | 11.00 |
| B Grade E. F. | 8.85 | " | 10.25 |
| B Grade S. & S. C. | 9.10 | " | 10.50 |
| C Grade E. F. | 8.55 | " | 9.75 |
| C Grade S. & S. C. | 8.80 | " | 10.00 |
| D Grade E. F. | 8.25 | " | 9.50 |
| D Grade S. & S. C. | 8.50 | " | 9.75 |

Ivory & India at $.50 cwt. extra.

### Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight to Destination.

| | |
|---|---|
| Bl. Softwood Sulphite | $76.00 |
| Unbl. Softwood Sulphite | 64.00 @ 66.00 |
| Bl. Hardwood Sulphite | 73.50 |
| Unbl. Hardwood Sulphite | 63.50 |
| Bl. Mitscherlich | 81.00 |
| Unbl. Mitscherlich | 72.00 |
| N. Bleached Sulphate | 86.00 |
| S. Bleached Sulphate | 79.00 |
| N. Semi-Bleached Sulphate | 82.00 |
| S. Semi-Bleached Sulphate | 75.00 |
| N. Unbl. Sulphate | 73.00 |
| S. Unbl. Sulphate | 63.50 |
| Bl. Soda | 66.00 |
| Unbl. Soda | 62.00 |
| Groundwood | 46.00 |

**Transportation Allowances Applying to Producers of Wet Wood Pulp.**

| | Below 50% Air Dry Weight |
|---|---|
| Northeast | $13.50 |
| Lake Central | 13.50 |
| Southern | 16.00 |
| West Coast (in area) | 10.50 |
| West Coast (out area) | 16.50 |

| | 50%-80% Air Dry Weight |
|---|---|
| Northeast | $11.50 |
| Lake Central | 11.50 |
| Southern | 14.00 |
| West Coast (in area) | 9.50 |
| West Coast (out area) | 15.50 |

**Applying to Producers of Dry Wood Pulp.**

| | Above 80% Air Dry Weight |
|---|---|
| Northeast | $8.50 |
| Lake Central | 8.50 |
| Southern | 11.00 |
| West Coast (in area) | 7.50 |
| West Coast (out area) | 13.50 |

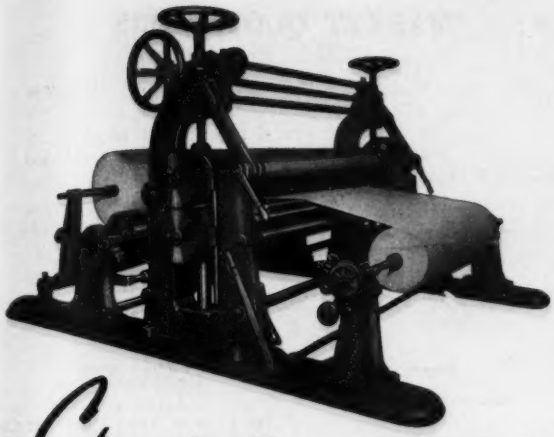
Should freight charges actually exceed these allowances, the difference may be added to the maximum price.

### Domestic Rags

**New Rags**

**(Prices to Mill f. o. b. N. Y.)**

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New White, No. 1 | 8.00 | @ | 8.25 |
| Silesias No. 1 | 4.50 | " | 4.75 |
| New Unbleached | 8.00 | " | 8.25 |
| Blue Overall | 5.75 | " | 6.00 |
| Fancy | 3.00 | " | 3.25 |
| Washables | 2.50 | " | 2.75 |
| Mixed Khaki Cuttings | 2.50 | " | 2.75 |
| O. D. Khaki Cuttings | 3.00 | " | 3.15 |



## Standard EMBOSSER

For tissues, cardboards, cover stocks, offset papers, liner boards and other paper materials taken off jumbo rolls and delivered to the rewinder.

Unit illustrated has single drum winder but same unit may be furnished with double drum or friction shaft winder.

Hudson-Sharp embossers may be obtained in varied designs for any purpose. Hudson-Sharp steel embossing and paper rolls are specially designed for any embossing purpose.

**HUDSON-SHARP**
MACHINE CO • GREEN BAY • WIS

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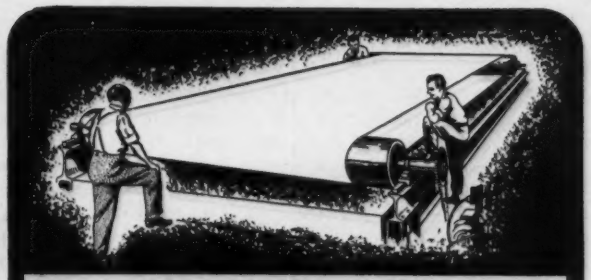

## FOURDRINIER WIRES

PLAIN WEAVE fourdrinier wires
TWILL WEAVE fourdrinier wires
TRIPLE CHAIN fourdrinier wires
TWISTED CABLE fourdrinier wires

*"FOR EVERY USE - from the manufacture of pulp to the lightest weight cigarette or condenser papers."*

The SINCLAIR Company
HOLYOKE, MASS.

---

# PRICE & PIERCE »»»»»»»»» ltd •

## Wood Pulp & Paper Agents

**60 East 42 Street**
**New York, N. Y.**

---

# West Virginia Pulp and Paper Company

230 Park Ave.
New York

35 East Wacker Drive
Chicago

Public Ledger Building
Philadelphia, Pa.

503 Market St.
San Francisco, Cal.

Manufacturers of

**ENGLISH FINISH SUPERCALENDERED MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS**

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card and Label Papers

**HIGH GRADE COATED BOOK**

• • • •

**KRAFT WRAPPING AND KRAFT ENVELOPE**
**KRAFT LINER BOARD**
**BLEACHED SULPHITE AND SODA PULP**
**BLEACHED AND UNBLEACHED KRAFT PULP**

MILLS:

Mechanicville, New York
Luke, Maryland
Covington, Virginia
Tyrone, Pennsylvania
Williamsburg, Pennsylvania
Cass, West Virginia
Charleston, South Carolina

### Old Rags

| | | | |
|---|---|---|---|
| White, No. 1— | | | |
| Repacked | *3.80 | " | — |
| Miscellaneous | *3.20 | " | — |
| White, No. 2— | | | |
| Repacked | *2.90 | " | — |
| Miscellaneous | *2.65 | " | — |
| Third and Blues— | | | |
| Repacked | *2.20 | " | — |
| Miscellaneous | *1.80 | " | — |
| Roofing Rags— | | | |
| No. 1 | *1.55 | " | — |
| No. 2 | *1.45 | " | — |
| No. 3 (bagging) | *1.35 | " | — |
| No. 4 | *1.35 | " | — |
| No. 5A | *1.35 | " | — |
| Old Manila Rope | 5.75 | " | — |

*OPA Maximum Prices

### Foreign Rags

All prices nominal

| | | | |
|---|---|---|---|
| **New Rags** | | | |
| New Dark Cuttings | 2.25 | @ | 2.4 |
| New Mixed Cuttings | 2.00 | " | 2.2 |
| New Light Silesias | 5.50 | " | 5.7 |
| Light Flannelettes | 5.50 | " | 5.75 |
| New White Cuttings | 7.00 | " | 7.5 |
| New Light Oxfords | 4.00 | " | 4.5 |
| New Light Prints | 3.00 | " | 3.2 |
| **Old Rags** | | | |
| No. 1 White Linens | 7.50 | " | 8.5 |
| No. 2 White Linens | 6.50 | " | 7.5 |
| No. 3 White Linens | 4.50 | " | — |
| No. 4 White Linens | [illegible] | @ | 3.4 |
| No. 1 White Cotton | 4.25 | " | 4.75 |
| No. 2 White Cotton | 3.25 | " | 3.75 |
| No. 3 White Cotton | 2.50 | " | 3.00 |
| No. 4 White Cotton | 1.90 | " | 2.2 |
| Extra Light Prints | 2.00 | " | 2.4 |
| Red Light Prints | 1.75 | " | 2.15 |
| Dutch Blue Cottons | 1.55 | " | 1.95 |
| French Blue Linens | 2.25 | " | 2.5 |
| Checks and Blues | 3.00 | " | — |
| Linsey Garments | 2.00 | " | 2.00 |
| Dark Cottons | 1.90 | " | 1.60 |
| Old Shopperies | 1.30 | " | 1.45 |
| New Shopperies | 1.45 | " | 1.50 |
| French Blues | 2.25 | " | 2.5 |

### BAGGING

(Prices to Mill, f. o. b. N. Y.)

| | | | |
|---|---|---|---|
| Gunny No. 1— | | | |
| Foreign | Nominal | | |
| Domestic | 4.00 | @ | 4.25 |
| Wool Tares, light | 4.25 | " | 4.50 |
| Wool Tares heavy | 4.50 | " | 4.75 |
| Bright Bagging | 4.50 | " | 4.85 |
| Manila Rope— | | | |
| Foreign | — | " | — |
| Domestic | *5.75 | " | — |
| Jute Threads | 4.25 | " | 4.75 |
| Sisal Strings | 3.25 | " | 3.75 |
| Mixed Strings | 1.10 | " | 1.20 |

*OPA Maximum Price.

### Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

| | | | |
|---|---|---|---|
| No. 1 Hard White Envelope Cuts, one cut | 3.37½ | @ | — |
| No. 1 Hard White Envelope Cuts | 3.12½ | " | — |
| No. 1 Hard White Shavings, unruled | 2.87½ | " | — |
| No. 1 Hard White Shavings, ruled | 2.50 | " | — |
| Soft White Shavings, one cut | 2.87½ | " | — |
| No. 1 Soft White Shavings | 2.50 | " | — |
| Soft White Shavings, Misc. | 2.15 | " | — |
| No. 1 Fly Leaf Shavings | 1.67½ | " | — |
| No. 2 Fly Leaf Shavings | 1.12½ | " | — |
| No. 1 Groundwood Fly Leaf Shavings | 1.25 | " | — |
| No. 2 Mixed Groundwood Fly Leaf Shavings | .90 | " | — |
| Mixed Colored Shavings | .75 | " | — |
| Mixed Groundwood Colored Shavings | .90 | " | — |
| Overissue Magazines | 1.67½ | " | — |
| No. 1 Heavy Books & Magazines | 1.57 | " | — |
| Mixed Books | 1.07½ | " | — |
| No. 1 White Ledger | 2.17½ | " | — |
| No. 2 Mixed Ledger, colored | 1.87½ | " | — |
| New Manila Envelope Cuttings, one cut | 2.87½ | " | — |
| New Manila Envelope Cuttings | 2.65 | " | — |
| Extra Manilas | 1.85 | " | — |
| Mixed Kraft, Env. & Bag Cuttings | 2.75 | " | — |
| Kraft Envelope Cuttings | 3.25 | " | — |
| Triple Sorted, No. 1 Brown Soft Kraft | 2.50 | " | — |
| New 100% Kraft Corrugated Cuttings | 2.25 | " | — |
| No. 1 Assorted Old Kraft | 1.75 | " | — |
| New Jute Corrugated Cuttings | 1.75 | " | — |
| Old Corrugated Containers | 1.00 | " | — |
| Box Board Cuttings | .72½ | " | — |
| White Blank News | 1.65 | " | — |
| Overissue News | .85 | " | — |
| No. 1 News | .75 | " | — |
| No. 1 Mixed Paper | .70 | " | — |

### Twines

(F. o. b. Mill

(Soft Fiber)

| | | | |
|---|---|---|---|
| Coarse Polished— | | | |
| India | .21 | @ | — |
| White Hemp | .21 | " | — |
| Fine Polished— | | | |
| Fine India | .26 | " | — |
| Unpolished— | | | |
| Box | .17¼ | " | — |
| Paper Makers | .17 | " | — |
| Tube Rope | .19 | " | — |
| Wall Paper | .20½ | " | — |
| Wrapping | .23 | " | — |
| Soft Fiber Rope | .19 | " | — |
| Cotton | .25 | " | — |
| (Hard Fiber) | | | |
| Medium Java | .18 | " | — |
| Mex. Sisal | .16 | " | — |
| Manila | — | " | — |

## PHILADELPHIA

### Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New White No. 1 | .07¼ | @ | .07½ |
| New White No. 2 | .04½ | " | .05 |
| Light Silesias | .04½ | " | .04¾ |
| Silesias, No. 1 | .04 | " | .04¼ |
| Black Silesias, soft | .03¾ | " | .04 |
| New Unbleached | .07¼ | " | .07½ |
| Washable Prints | .03¼ | " | .03½ |
| Washable No. 1 | .02 | " | .02¼ |
| Blue Overalls | .04½ | " | .05½ |
| Cuttings—According to grades— | | | |
| Washable shredding | — | " | .01¾ |
| Fancy Percales | .03¼ | " | .03¾ |
| New Black Soft | .02¾ | " | .03 |
| New Dark Seconds | 1.75 | " | 2.00 |
| Khaki Cuttings— | | | |
| No. 1 O. D. | .03 | " | .03¾ |
| No. 2 Mixed | .02¼ | " | .02½ |
| Corduroy | .01¾ | " | .02¼ |
| New Canvas | .04¾ | " | .05¾ |
| New Black Mixed | — | " | .02½ |

### Domestic Rags (Old)

| | | | |
|---|---|---|---|
| White No. 1—Repacked | 3.80 | " | — |
| White No. 2—Repacked | 2.90 | " | — |
| Miscellaneous No. 1 | 3.20 | " | — |
| Miscellaneous No. 2 | 2.65 | " | — |
| Thirds and Blues— | | | |
| Miscellaneous | 1.80 | " | — |
| Repacked | 2.20 | " | — |
| Black Stockings— | | | |
| (Export) | Nominal | | |
| Roofing Stock— | | | |
| Foreign No. 1 | Nominal | | |
| Domestic No. 1 | 1.55 | " | — |
| Domestic No. 2 | 1.45 | " | — |
| Roofing Bagging | 1.35 | " | — |
| Old Manila Rope | 5.75 | " | — |

### Bagging

(F. o. b. Phila.)

| | | | |
|---|---|---|---|
| Gunny No. | | | |
| Foreign | Nominal | | |
| Domestic | 3.00 | " | 3.50 |
| Sisal Rope | 3.75 | " | — |
| Mixed Rope | .75 | " | 1.00 |
| Scrap— | | | |
| No. 1 | 3.25 | " | 3.50 |
| No. 2 | 1.75 | " | 1.80 |
| Wool Tares, heavy | 4.00 | " | 4.25 |
| No. 1 New Light Burlap | 3.00 | " | 4.00 |
| New Burlap Cuttings | 3.75 | " | 4.00 |

### Old Papers

(F. o. b. Phila.)

OPA Maximum Prices

| | | | |
|---|---|---|---|
| No. 1 Hard White Envelope Cuts, one cut | 3.37½ | " | — |
| No. 1 Hard White Shavings, unruled | 2.50 | " | — |
| Soft White Shavings, one cut | 2.87½ | " | — |
| White Blank News | 1.65 | " | — |
| Soft White Shavings, Misc. | 2.15 | " | — |
| No. 1 White Ledger | 2.17½ | " | — |
| No. 2 Ledger, colored | 1.87½ | " | — |
| No. 1 Heavy Books & Magazines | 1.57 | " | — |
| Overissue Magazines | 1.67½ | " | — |
| New Manila Envelope Cuttings | 2.65 | " | — |
| No. 1 Assorted Old Kraft | 1.75 | " | — |
| No. 1 Mixed Paper | .70 | " | — |
| Box Board Cuttings | .72½ | " | — |
| Jute Corrugated Cuttings | .90 | " | — |
| Overissue News | .85 | " | — |
| No. 1 News | 1.00 | " | — |

## BOSTON

### Old Papers

(F. o. b. Boston)

OPA Maximum Prices

| | | | |
|---|---|---|---|
| No. 1 Hard White Shavings, unruled | 2.87½ | @ | — |
| No. 1 Fly Leaf Shavings | 1.67½ | " | — |
| No. 2 Fly Leaf Shavings | 1.12½ | " | — |
| No. 1 Groundwood Fly Leaf Shavings | 1.25 | " | — |
| No. 2 Groundwood Fly Leaf Shavings | .90 | " | — |
| Mixed Colored Shavings | .75 | " | — |
| New Manila Envelope Cuts, one cut | 2.87½ | " | — |
| Hard White Envelope Cuts, one cut | 3.37½ | " | — |
| Triple Sorted No. 1 Brown Soft Kraft | 2.50 | " | — |
| Mixed Kraft Env. & Bag Cuttings | 2.75 | " | — |
| Kraft Envelope Cuttings | 3.25 | " | — |
| No. 1 Heavy Books & Magazines | 1.57 | " | — |
| New Manila Envelope Cuts, one cut | 2.87½ | " | — |
| New Manila Envelope Cuttings | 2.65 | " | — |
| White Blank News | 1.65 | " | — |
| No. 1 Assorted Old Kraft | 1.75 | " | — |
| No. 1 Mixed Paper | .70 | " | — |
| Overissue News | .85 | " | — |
| Box Board Cuttings | .72½ | " | — |
| New Corrugated Cuttings, Kraft | 2.25 | " | — |
| Old Corrugated Containers | 1.00 | " | — |
| Jute Corrugated Cuttings | 1.07½ | " | — |

### Bagging

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Gunny Bagging— | | | |
| Foreign | (nominal) | | |
| Domestic | 4.75 | @ | 5.00 |
| Sisal Rope | 5.00 | " | 5.25 |
| Mixed Rope | 1.25 | " | 1.40 |
| Transmission Rope— | | | |
| Foreign | (nominal) | | |
| Domestic | 4.00 | " | 4.25 |
| Manila Rope— | | | |
| Foreign | (nominal) | | |
| Domestic | 5.75 | " | — |
| Soft Jute Rope | 5.50 | " | 6.00 |
| Jute Carpet Threads | 3.25 | " | 3.50 |
| Bleachery Burlap | 8.50 | " | 9.00 |
| Scrap Burlap— | | | |
| Foreign | (nominal) | | |
| Domestic | 4.50 | " | — |
| Scrap Sisal | 4.75 | " | 5.00 |
| Scrap Sisal for Shredding | 5.50 | " | 5.75 |
| Foreign | (nominal) | | |
| Domestic | 5.00 | " | 5.75 |
| Aust. Wool Pouches | 5.75 | " | 6.00 |
| New Burlap Cuttings | 5.50 | " | 5.75 |
| Heavy Baling Bagging | 5.50 | " | 5.75 |

## CHICAGO

### Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices

| | | | |
|---|---|---|---|
| Shavings— | | | |
| No. 1 Hard White Envelope Cuts, one cut | 3.37½ | " | — |
| No. 1 Hard White Shavings, unruled | 2.50 | " | — |
| No. 1 Soft White Shavings | 2.50 | " | — |
| No. 1 White Ledger | 2.17½ | " | — |
| No. 1 Heavy Books & Magazines | 1.57 | " | — |
| White Blank News | 1.65 | " | — |
| Mixed Kraft Env. & Bag Cuttings | 2.75 | " | — |
| No. 1 Assorted Old Kraft | 1.75 | " | — |
| Overissue News | .85 | " | — |
| No. 1 News | .75 | " | — |
| No. 1 Mixed Paper | .70 | " | — |
| No. 1 Roofing Rags | 1.55 | " | — |
| No. 2 Roofing Rags | 1.45 | " | — |

### Domestic Rags (New)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New Light Prints | .04½ | @ | .04¾ |
| Fancy Percales | .04¼ | " | .05 |
| New White No. 1 | .08 | " | .08¼ |
| New Light Flannelettes | .06 | " | .06¼ |
| Canton Flannel, Bleached | .08¾ | " | .08¼ |
| Underwear Cutters, Bleached | .08 | " | .08¼ |
| Underwear Cutters, Unbleached | 6.50 | " | 6.75 |
| Silesias No. 1 | .06 | " | .06¼ |
| New Black Silesias | .03¾ | " | .04 |
| Red Cotton Cuttings | .03½ | " | .04 |
| Soft Unbleached | .08¼ | " | .08¼ |
| Blue Cheviots | .04¾ | " | .05 |
| Fancy | .02¾ | " | — |
| Washable | 01¾ | " | — |
| Cottons According to Grades— | | | |
| Blue Overalls | — | " | .05½ |
| New Black, Soft | .03¾ | " | .04 |
| Khaki Cuttings | .04¼ | " | .04½ |
| O. D. Khaki | .04½ | " | .04¾ |
| Corduroy | 02 | " | 02½ |
| New Canvas | .06 | " | .06¼ |
| B. V. D. Cuttings | .07¾ | " | .08 |

### Domestic Rags (Old)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| White No. 1— | | | |
| Repacked | 3.80 | @ | — |
| Miscellaneous | 3.20 | " | — |
| White No. 2— | | | |
| Miscellaneous | 2.65 | " | — |
| Twos and Blues, Repacked | 2.20 | " | — |
| Old Blue Overalls | 2.25 | " | 2.50 |
| Thirds and Blues, Repacked | 2.20 | " | — |
| Miscellaneous | 1.80 | " | — |
| Black Stockings | 3.50 | " | 4.00 |
| Roofing Stock— | | | |
| No. 1 | 1.55 | " | — |
| No. 2 | 1.45 | " | — |
| No. 3 | 1.35 | " | — |
| No. 4 | 1.35 | " | — |
| No. 5, Quality A | 1.35 | " | — |
| Quality B | 1.20 | " | — |
| Quality C | .95 | " | — |
| Old Manila Rope | 5.75 | " | — |

*OPA Maximum Prices.

### Foreign Rags

(F. o. b. Boston)

| | |
|---|---|
| Canvas | (nominal) |
| Dark Cottons | (nominal) |
| Dutch Blues | (nominal) |
| New Checks and Blues | (nominal) |
| Old Fustians | (nominal) |
| Old Linsey Garments | (nominal) |
| New Silesias | (nominal) |